GENERAL PERMIT FOR SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS
PERMIT NUMBER: VAR040053

Permit Year 2 Annual Report
Reporting Period: July 1, 2014 - June 30, 2015

City of Winchester, Virginia
Rouss City Hall
Public Services Department
15 North Cameron Street
Winchester, VA 22601

October 1, 2015

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Attachments

1.0 Background Information

(1) Name and State permit number of the program submitting the annual report; (2) The annual report permit year; (3) Modifications to any operator's department's roles and responsibilities; (4) Number of new MS4 outfalls and associated acreage by HUC added during the permit year; (5) Signed certification in accordance with 9 VAC25-870-370.

1. Name and State permit number of the program submitting the annual report:

City of Winchester, VA

Permit # VAR040053

2. The annual report permit year:

This serves as the Annual Report for permit Year 2 of the 2013-2018 Virginia MS4 General Permit. This Report covers the reporting period from July 1, 2014 – June 30, 2015.

3. Modifications to any operator's department's roles and responsibilities:

There have been no modifications to the roles and responsibilities of the various City departments responsible for implementation of the program during this reporting period. The City's Engineering Division, led by the City Engineer, is responsible for implementing the commitments in the MS4 Program Plan. The City's Department of Fire and Rescue, led by the Fire and Rescue Chief, is responsible for implementation of BMP 3.7: Hazardous Spill Response. The City's Public Works Division, led by the Refuse and Recycling Coordinator, is responsible for the implementation of BMP 3.8: Household Hazardous Waste Collection and BMP 3.9: Household Waste Reduction. The City's Public Works Division, led by the Public Works Operations Superintendent, is responsible for implementation of BMP 5.5: City-Owned Stormwater Management Facility Maintenance and BMP 6.8: Street Sweeping.

4. Number of new MS4 outfalls and associated acreage by HUC added during the permit year:

The following new MS4 outfalls (Table 1) were added to the City's inventory during this reporting period.

Table 1. New MS4 Outfalls

Temporary Outfall ID	Location	Drainage Area (Acres)	HUC
New1	Located inside culvert under S Pleasant Valley Rd at the southeast corner of the culvert	0.99	020700
New2	Located 10' upstream of culvert under S Pleasant Valley Road on southern bank	0.20	020700
New3	Located inside culvert under S Pleasant Valley Rd at the southwest corner of the culvert	0.39	020700

5. Signed certification in accordance with 9 VAC25-870-370

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Perry Eisenach, P.E.
Public Services Director

9/23/15
Date

For questions about the annual report submittal or Winchester's MS4 Program Plan, please contact:

Kelly Henshaw, PE, City Engineer
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Winchester, VA 22601

540-667-2387
Kelly.Henshaw@winchesterva.gov

2.0 Status of Permit Condition Compliance

The status of compliance with state permit conditions, an assessment of the appropriateness of the identified best management practices and progress towards achieving the identified measurable goals for each of the minimum control measures.

2.1. Assessment of BMP Appropriateness

The City of Winchester is confident that the BMPs we have chosen to implement under our 2013-2018 MS4 Program Plan are appropriate and meet the requirements of the MS4 General Permit. We will continue to monitor the status and appropriateness of each BMP as implementation continues.

2.2. Required MS4 Program Plan Updates

The MS4 General Permit identified a compliance schedule for the development and implementation of a number of new MS4 General Permit Requirements. In order to comply with the MS4 General Permit's compliance schedule, the City was required to complete three (3) of these requirements during this reporting period. A fourth requirement, the development and implementation of a progressive compliance and enforcement strategy for enforcement of construction site stormwater runoff control, was optional. Table 2 in this Annual Report details the City's compliance with the schedule included in Table 1 of the MS4 General Permit.

Table 2: Compliance Review of MS4 General Permit Program Updates

Program Update Requirement	Compliance Status	Documentation
Updated TMDL Action Plans (TMDLs approved before July of 2008) - Section I B	**Compliant**	*Abrams Creek and Lower Opequon Creek Combined Sediment and Bacteria TMDL Action Plan, submitted 10/1/2015*
Chesapeake Bay TMDL Action Plan - Section I C	**Compliant**	*Chesapeake Bay TMDL Action Plan, submitted 10/1/2015*
Stormwater Management Progressive Compliance and Enforcement - Section II B 4	**Optional**	City chose to implement regulations consistent with State requirements and not develop separate optional criteria
Daily Good Housekeeping Procedures - Section II B 6 a	**Compliant**	*Pollution Prevention / Good Housekeeping For Municipal Operations - Standard Operating Procedures 2013-2018*

Updated TMDL Action Plans - Section I B

The City prepared an Abrams Creek and Lower Opequon Creek Combined Sediment and Bacteria TMDL Action Plan. This Action Plan specifically addresses the Special Condition for approved local TMDLs (Section I.B) in the City's MS4 Permit. A copy of this Action Plan is provided in Attachment 1 to this Annual Report.

Chesapeake Bay TMDL Action Plan - Section IC

The City prepared a Chesapeake Bay TMDL Action Plan that specifically addresses the Special Condition for approved local TMDLs (Section I.C) in the City's MS4 Permit. A copy of this Action Plan is provided in Attachment 2 to this Annual Report.

Stormwater Management Progressive Compliance and Enforcement - Section II B 4

The City chose not to develop a separate stormwater management progressive compliance and enforcement strategy for insuring construction site stormwater runoff control. The City will continue to require erosion and sediment control plans for land disturbing activities in accordance with Sections 9-20 thru 9-37 of the City Code and will continue to enforce those agreements in accordance with Sections 9-38 thru 9-42 of the City Code. These City Codes are consistent with 9VAC25-840.

Daily Good Housekeeping Procedures - Section II B 6 a

The City developed written Standard Operating Procedures (SOPs) for Daily Good Housekeeping and Pollution Prevention. The Pollution Prevention/Good Housekeeping for Municipal Operations - Standard Operating Procedures 2013-2018 can be found in Attachment 3 and outlines these procedures and the roles and responsibilities of the City Divisions involved.

2.3. Measurable Goals Progress

I. Public Education and Outreach

BMP 1.1. City Stormwater Webpage: The City will maintain a web page dedicated to the City's stormwater management program. The MS4 Program Plan, MS4 Annual Reports and other information will be made available to the public through this website. Once a year in conjunction

with development of the MS4 Annual Report, the City will insure the validity of all links to stormwater information included on the web page.

During this reporting period, the City continued to maintain a stormwater specific webpage found at: http://www.winchesterva.gov/engineering/stormwater. The City's webpage is the primary public education and outreach tool utilized for reaching the program's targeted audiences and providing for distribution of educational materials to convey the appropriate messages. Through this webpage, the City provided year-long public access to the EPA video series "After the Storm". The City also advertised the Stormwater Complaint Hotlines on this webpage and facilitated distribution (via direct download) of the Stormwater Complaint Hotline Flyer. There were approximately 348 page views on the City's Stormwater Webpage during this reporting period.

BMP 1.2. Social Media: The City will use its Facebook and Twitter accounts as necessary to distribute stormwater related information to its citizens in order to meet the annual requirement to reach 20% of its target audiences. Expected use of social media will be identified as part of the intended MS4 Public Education and Outreach Program for the next reporting year in the applicable MS4 Annual Report.

The City has 7,418 Facebook and 1,632 Twitter individual followers which facilitated distribution of stormwater related materials and messages during this reporting period.

BMP 1.3. Public Events: The City will participate in public events such as the Community Wellness Festival as necessary to distribute stormwater related information to its citizens in order to meet the annual requirement to reach 20% of its target audiences. Expected public events will be identified as part of the intended MS4 Public Education and Outreach Program for the next reporting year in the applicable MS4 Annual Report.

The City participated in the Wellness Festival on February 28th, 2015. During this event, the City made contact with approximately 200 children/adults and handed out "goody bags" each of which included 5 stormwater related pieces of information. Therefore approximately 1000 stormwater-related informational materials were distributed to the general public including City residents at this event.

The City provided a free backyard composting class to the local Garden Club. This event was held on April 30, 2015 and there were approximately 35 attendees present at the event.

The City did not sponsor an Earth Day 2015 event this year. However, the City's Engineer did participate in the Earth Day Festival held by the Town of Haymarket on April 11, 2015. The City Engineer made 8 presentations with the non-point source pollution model and spoke to approximately 75 adults and children at this event.

BMP 1.4 Publications (Print and Electronic): The City will use publications such as its Cit-E newsletter as necessary to distribute stormwater related information to its citizens in order to meet the annual requirement to reach 20% of its target audiences. Expected use of publications will be identified as part of the intended MS4 Public Education and Outreach Program for the next reporting year in the applicable MS4 Annual Report.

The City's webpage is the primary public education and outreach tool utilized for reaching the program's targeted audiences and providing for distribution of educational materials to convey the appropriate messages. Publications currently available for download from the City's Stormwater webpage during this reporting period included:

- *Stormwater Complaint Hotline Flyer*
- *EPA's "After the Storm" Video Series*
- *"Pick it Up, It's Your Doodie" Pet Waste Brochure*
- *"Please Do Not Feed the Waterfowl" Wildlife Waste Brochure*
- *"How to Make Your Own Rain Barrel" Presentation*
- *"Adopt-A-Stream" Flyer*
- *2014 - 2018 Municipal Separate Storm Sewer System (MS4) Program Plan*
- *2014 MS4 Permit Year 1 Annual Report*

The following publications were customized for download on the City's stormwater webpage:

- ***After the Storm Brochure - English** - English version of this brochure customized with the City's contact information.*
- ***After the Storm Brochure - Spanish** - Spanish version of this brochure customized with the City's contact information.*
- ***SepticSmart_Short_Rack_Brochure_English**- English version of this brochure customized with the City's contact information.*
- ***SepticSmart_Short_Rack_Brochure_Spanish**- English version of this brochure customized with the City's contact information.*
- ***Make Your Home the Solution to Stormwater Pollution Brochure**- English version of this brochure customized with the City's contact information.*
- ***Kids Stormwater Stickers** - Print sheets of stormwater stickers that can be printed on sticky back paper.*

These new publications will be uploaded to the City's webpage and distributed at public events during the next reporting period.

BMP 1.5. Watershed and Stormwater Educational Opportunities Program: The City will continue to implement its Watershed and Stormwater Opportunities Education Program directed at students in Winchester City Public Schools. The City will concentrate on delivery of this program to sixth grade students in a manner necessary to insure that high priority water quality issues are addressed to the target audiences.

The City continued the Watershed and Stormwater Educational Opportunities Program as part of the City's formal program of stormwater education at schools within the City. The City Engineer conducted the following school presentations regarding engineering and high priority water quality issues during the current reporting period:

- *July 11, 2014 – Winchester STARBASE Academy 5th graders – 20 students*
- *September 3, 2014 – Winchester STARBASE Academy 5th graders – 24 students*
- *October 24, 2014 – Winchester STARBASE Academy 5th graders – 22 students*
- *November 5, 2014 – Sherando High School 11th and 12th graders – 10 students*
- *November 7, 2014 – Daniel Morgan Middle School 6th graders – 150 students*

- *January 22, 2015 – Winchester STARBASE Academy 5th graders – 20 students*
- *February 20, 2015 – Massanutten Academy 9th – 12th graders – 40 students*
- *March 13, 2015 – Orchard View Elementary 4th graders – 75 students*

BMP 1.6. Other Message Delivery: The City will utilize other types of message delivery as necessary such as "Clean Up After Your Dog" signage at the City's Dog Park to reach the target audiences identified in its Public Education and Outreach matrix. These types of message delivery will be identified as part of the intended MS4 Public Education and Outreach Program for the next reporting year in the applicable MS4 Annual Report.

The City continued to promote picking up pet wastes through the use of "Clean Up After Your Dog" signs placed at the Dog Park located in Jim Barnett Park.

The City's Public Works Division continued to promote its Adopt-A-Tree, Watch It Grow program on its web page and through distribution of its pamphlet.

BMP 1.7. Educational Materials: The City will retain copies (electronic or hard copy) of educational materials utilized in delivery of its messages regarding high priority water quality issues to target audiences. As part of the stormwater education and outreach program review required prior to reapplication for coverage under the MS4 General Permit in FY2017/18, the City will review the appropriateness of the message contained in these educational materials.

The City continues to maintain current copies of all the educational materials utilized under its Public Education and Outreach program to include the publications listed under BMP 1.4 above.

Additional Reporting Requirements:

Provide a list of the education and outreach activities conducted during this reporting period for each high-priority water quality issue, the estimated number of people reached, and an estimated percentage of the target audience or audiences that were reached.

Table 3. Education and Outreach Activities conducted during this reporting period

High Priority WQ Issue	Activity Description	Estimated # of People Reached	Estimated % of Target Audience(s) Reached
HPWQI #1: Reduce the amount of sediments and nutrients in area stormwater discharges	Watershed and Stormwater Educational Opportunities Program at local schools	361	13%*
	Community Wellness Festival 2015	200	2%
	Backyard Composting Class	35	<1%
	Earth Day Festival 2015 in Haymarket	75	1%
	Social Media Campaign on Facebook and Twitter	9050	11%**
HPWQI #2: Reduce bacteria levels in City of Winchester streams	Watershed and Stormwater Educational Opportunities Program at local schools	361	34%*

	Community Wellness Festival 2015	200	6%
	Backyard Composting Class	35	1%
	Earth Day Festival 2015 in Haymarket	75	2%
	Social Media Campaign on Facebook and Twitter	9050	28%**
HPWQI #3: Reduce the number of Illicit Discharges	Watershed and Stormwater Educational Opportunities Program at local schools	361	13%
	Community Wellness Festival 2015	200	2%
	Backyard Composting Class	35	<1%
	Earth Day Festival 2015 in Haymarket	75	1%
	Social Media Campaign on Facebook and Twitter	9050	11%**

* These estimates assume that each student shared the ideas and information they received during the training with two other family members or friends who are part of the targeted audiences.

** These estimates conservatively assume that 10% of the City's individual followers on Facebook and Twitter are part of the targeted audiences and were reached by the City's Social Media Campaign.

Provide a list of the education and outreach activities that will be conducted during the next reporting period for each high-priority water quality issue, the estimated number of people that will be reached, and an estimated percentage of the target audience or audiences that will be reached.

The City plans to continue with the following education and outreach activities during the next reporting cycle and expects to reach the same or even more members of the targeted audiences as were reached during this reporting period (which was well over the targeted 20%):

- *Watershed and Stormwater Educational Opportunities Program at local schools (To be scheduled)*
- *Community Wellness Festival 2016 (February 2016)*
- *Backyard Composting Classes (To be scheduled)*
- *Earth Day Festival 2016 (on or about April 22, 2016)*
- *Social Media Campaign on Facebook and Twitter (Continuously throughout the year)*

II. Public Involvement and Participation

BMP 2.1. Public Announcements: The City will provide public notification of all public meetings and hearings in accordance with any applicable federal, state, and local public notice requirements.

The City has continued to comply with the applicable public notice requirements under the MS4 General Permit. Public meetings are advertised on the City's web page http://www.winchesterva.gov/government/city-council/meetings and in the Winchester Star Newspaper, as required by Virginia Open Meetings Law.

BMP 2.2. Public MS4 Program Information Access: The City will provide public access to the MS4 Program Plan and MS4 Annual Reports by placing copies of the updated MS4 Program Plan and MS4 Annual Report on the City's Stormwater Webpage (BMP 1.1). Copies of each year's annual report will be retained on-line for the length of the current General Permit.

The City of Winchester's current MS4 Program Plan and previous Annual Reports are available for download at: http://www.winchesterva.gov/engineering/stormwater. *This MS4 Annual Report and any revisions to the City's MS4 Program Plan will be placed on-line within 30 days of submission to DEQ.*

BMP 2.3. Stormwater Complaint Hotlines: The City will maintain its current stormwater complaint hotlines to encourage public reporting and involvement. The City promotes 540-662-4131 for reporting urgent issues such as illegal dumping and spills. The City promotes 540-542-1346 for reporting of less urgent issues such as maintenance issues and erosion and sediment control complaints.

During this reporting period, the City continued to advertise the Stormwater Complaint Hotlines on its stormwater webpage, processed calls placed to the Stormwater Complaint Hotlines, and facilitated distribution (via direct download) of the Stormwater Complaint Hotline Flyer.

BMP 2.4. Promotion of the Local Environmental Events: The City will annually promote a total of four events encouraging public participation and involvement including Household Hazardous Collection Days and Adopt-A-Stream. The City will promote these activities through use of its public education and outreach BMPs such as 1.1 City Stormwater Webpage, 1.4 Publications and 1.6 Other Message Delivery.

The local environmental events that the City promoted during this reporting period were:

- *Household Hazardous Waste Collection Days (see schedule under BMP 2.5)*
- *Adopt-A-Stream program and event as advertised on the following City webpage: https://www.winchesterva.gov/engineering/adopt-a-stream*
- *July 31st – Geese removal project from Wilkins Lake – via Facebook, Cit-E News*
- *September 24th – Abrams Creek Wetlands Tour – via Facebook, Parks and Rec activity guide*
- *December 11th – Leaf Collection – via Facebook, Cit-E News and City website*
- *January 5th – Christmas Tree Pickup and Recycling – via Facebook and Cit-E News*
- *March 10th – Yard Waste Collection – via Facebook, Cit-E News and City website*
- *April 18th – Day of Service for Arbor Day – via Private invitation*
- *April 22nd – Arbor Day Ceremony – via Private Invitation*

BMP 2.5. Promotion of the Household Hazardous Waste Collection Days: The City will continue to promote the joint Frederick County /Winchester Household Hazardous Waste Collection Days program. The City will promote the Household Hazardous Waste Collection Days as one of its four local participation programs and will contribute to its implementation by providing pick-up and disposal of trash and debris collected by the participants.

The City continued to promote the Household Hazardous Waste Collection Days as one of its four local participation programs. These events were held on the first and third Wednesdays of

each month from noon to 6 p.m. during the months of April through October. During the months of November, December, January, February and March, one event was held each month on the third Wednesday of the month.

BMP 2.6. Sponsorship of Adopt-A-Stream Program: The City will continue to promote Adopt-A-Stream program by sponsoring an annual stream clean-up day. In addition, the City will sponsor an Adopt-A-Stream Stream Clean-Up Day as one of its four local participation programs and will contribute to its implementation by providing pick-up and disposal of trash and debris collected by the participants.

During this reporting period, the City continued to promote the Adopt-A-Stream program on the following City webpage: https://www.winchesterva.gov/engineering/adopt-a-stream. Furthermore, the City sponsored two Adopt-A-Stream Clean-Up Days which were held on the following days:

- *January 17, 2015 – 9 bags of trash and debris were collected*
- *Week of April 20, 2015 – 12 bags of trash and debris were collected*

Additional Reporting Requirements:

Provide a web link to the MS4 Program Plan and annual report.

The City of Winchester's current MS4 Program Plan and previous Annual Reports are available for download at: http://www.winchesterva.gov/engineering/stormwater . *This MS4 Annual Report and any revisions to the City's MS4 Program Plan will be placed on-line within 30 days of submission to DEQ.*

Provide documentation of compliance with the public participation requirements of this section.

Documentation of the City's compliance with the public participation requirements contained in Section II.B.2 of the MS4 General Permit has been provided in the write-ups shown above under the Public Involvement and Participation section of this Annual Report and via the City's stormwater webpage.

III. Illicit Discharge Detection and Elimination

BMP 3.1. Storm Sewer Infrastructure and Outfall Mapping: The City will maintain a stormwater infrastructure layer as part of its overall GIS program. The General Public will be able to access the stormwater infrastructure layer using the City's interactive mapping program. The City will maintain an MS4 Outfall layer that identifies the location of the City's MS4 outfalls.

The City updates the storm sewer map on a continuous basis with the receipt of "as-built" development plans. A copy of the storm sewer map including outfalls, receiving waters and hydrologic unit codes is available by request at the City Engineer's office. A utilities map including storm sewer infrastructure mapping is available to the public on the following website: http://www.winchesterva.gov/gis/interactive-mapping

BMP 3.2. MS4 Operator Coordination: The City will provide written notification to downstream MS4 operators where it identifies that the City's MS4 infrastructure is physically connected. At

this time, the only local MS4s are the Frederick County Schools MS4 and the Virginia Department of Transportation.

The City did not provide any new written notifications of physical interconnections with downstream MS4 operators as they are the same as in previous years (Frederick County Schools MS4 and the Virginia Department of Transportation).

BMP 3.3. Legal Authority - IDDE: The City will maintain legal authority prohibiting illicit discharges into the MS4 system. The legal authority will also identify those non-stormwater discharges allowed to be discharged into the MS4 system. This legal authority is established at Chapter 9, Section III of the Code of Winchester.

The City continues to maintain the legal authority to prohibit illicit discharges through the City's Water Protection Ordinance (Chapter 9 of the City Code). The City provides information on illicit discharges and links to Chapter 9 of the City Code on the following website: http://www.winchesterva.gov/engineering/stormwater.

BMP 3.4. IDDE Investigation and Follow-Up: The City will investigate and conduct follow-up on suspect discharges in accordance to procedures included in the Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual, June 2014 edition.

The City's Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual, June 2014 edition provides guidance for investigating complaints, determining the source of suspect discharges, and eliminating illicit discharges. During this reporting period there were no potential illicit discharges reported via the City's Stormwater Complaint Hotlines.

BMP 3.5. MS4 Outfall Dry Weather Field Screening: The City will conduct dry weather screening on fifty (50) MS4 outfalls annually using procedures included in the Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual, June 2014 edition.

The City conducted dry weather screening inspections of 50 outfalls in the Town Run (OT 2-9, 63, 67), Abrams Creek (OT 16-32, OT 42-50), and Hogue Creek (OT 1-13) watersheds. The inspections resulted in one potential illicit discharge issue located at Abrams Creek, outfall OT 45 on April 14, 2015. This outfall was flagged due to the presence of sorbent pads in the outfall structure though it did not appear that an illicit discharge had taken place at the time of the screening inspection. A follow-up investigation on this potential illicit discharge issue revealed that this particular outfall was regulated under a separate industrial stormwater permit issued to the property owner (VAR050810). The property owner was notified of the potential issue and this outfall was subsequently removed from the City's MS4 outfall inventory and the case closed on April14, 2015.

BMP 3.6. Illicit Discharge Tracking and Documentation: The City will track and document suspect and illicit discharges, as well as, City investigation, follow-up and enforcement actions in accordance to procedures included in the Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual, June 2014 edition.

During Year 2 of the permit, one potential illicit discharge was observed during a drive-by on June 13, 2015. The property owner was found to be washing restaurant bins into the storm drain. City staff immediately approached the property owner and verbally notified them that the

actions were against City Code. The property owner immediately stopped the illegal activity. City staff checked the drain for any necessary clean-up and found that none was required. This case was closed out by City staff on June 15, 2015.

BMP 3.7. Hazardous Spill Response: The City, in cooperation with Frederick County, will provide emergency response to hazardous material spills and accidental chemical releases.

During this reporting period, there were19 incidents reported by emergency response personnel. All of these incidents were minor in nature and were contained to the area of origin. None of these events resulted in a discharge to the City's MS4.

BMP 3.8. Household Hazardous Waste Collection: The City, in cooperation with Frederick County, will continue to provide household hazardous waste collection opportunities for its residents. The collection schedule will be promoted through use of the City's social media and Cit-E newsletter.

The City continued to promote the Household Hazardous Waste Collection Days as one of its four local participation programs. These events were held on the first and third Wednesdays of each month from noon to 6 p.m. during the months of April through October. During the months of November, December, January, February and March, one event was held each month on the third Wednesday of the month. All collections take place at the landfill's citizens' convenience center.

BMP 3.9. Household Waste Reduction: The City will continue to provide weekly waste collection services for City residents. In addition, the City will continue to provide fall leaf collection services, yard waste collection services and bulky waste collection services to City residences. Schedules for these services will be placed on the City's Public Works web page regarding refuse and recycling (http://www.winchesterva.gov/public-works/refuse).

The City continued to provide weekly waste collection services for City residents. The following are statistics associated with the City's Household Waste Reduction Program during this permit cycle:

- Household waste collected – 6,541.55 tons
- Recycled materials (paper/cardboard, bottles/cans/plastic, scrap metal) collected – 2,120.85 tons
- Yard waste collected – 965.27 tons
- Recycling bins distributed - 1119

BMP 3.10. Elimination of Sanitary Sewage Seepage from Public Sewers: The City will continue, as part of its sanitary sewer utilities program, implementation of its inflow and infiltration program to replace or slipline sanitary sewers to prevent illicit discharge. The level of implementation of this BMP each year will be established by the City Council as part of annual budget approval.

As part of the City's ongoing inflow and infiltration program, the City replaced approximately 332 LF of sanitary sewer and four sanitary sewer manholes during this reporting period.

Additional Reporting Requirements:

List any written notifications of physical interconnections given by the operator to other MS4s

The City did not provide any <u>new</u> written notifications of physical interconnections with downstream MS4 operators as they are the same as in previous years (Frederick County Schools MS4 and the Virginia Department of Transportation).

List the total number of outfalls screened during the reporting period, the screening results, and details of any follow-up actions necessitated by the screening results

The City screened 50 outfalls during this reporting period. The City's outfall screening results were provided under BMP 3.5 above. A copy of the City's IDDE Dry Weather Screening Report for Permit Year 2 and dated April 20, 2015 is provided as Attachment 4 to this Annual Report.

Provide a summary of each investigation conducted by the operator of any suspected illicit discharge. The summary must include: (i) the date that the suspected discharge was observed, reported, or both; (ii) how the investigation was resolved, including any follow-up, and (iii) resolution of the investigation and the date the investigation was closed.

The City investigated two potential illicit discharge events during this reporting period. Details, including dates, of these investigations were provided under BMPs 3.5 and 3.6 above.

IV. Construction Site Stormwater Runoff Control

BMP 4.1. Legal Authority – E and SC: The City will maintain legal authority for implementation of a local erosion and sediment control program consistent with 9VAC25-840-10 et. seq. This legal authority is established at Chapter 9, Section II of the Code of Winchester.

The City continues to maintain the legal authority for implementation of a local erosion and sediment control program consistent with 9VAC25-840-10 through the City's Water Protection Ordinance (Chapter 9, Section II of the City Code). The City provides information on erosion sediment control and links to Chapter 9 of the City Code on the following website: http://www.winchesterva.gov/engineering/erosion. The City also provides access to a downloadable Land Disturbance Permit Package on the following website: http://www.winchesterva.gov/engineering/permits.

BMP 4.2. Land Disturbing Activity Plan Review: The City will require submission of complete Land Disturbance Permit Applications and Virginia Stormwater Management Program Permit Packages for regulated land disturbance activities. The City will review the packages for compliance with Chapter 9, Section II of the City Code (Erosion Control) and Chapter 9, Section III of the City Code (Stormwater Management) by reviewing the checklists included in the permit application packages. Approval for land disturbance will not be given by the City until an application is approved.

The City continues to require permits for land disturbing activities including a VSMP authority permit through Chapter 9 of the City Code. The City provides access to a downloadable Land Disturbance Permit Package and Virginia Stormwater Management Program Permit Package on the following website: http://www.winchesterva.gov/engineering/permits.

BMP 4.3. VPDES Construction Activity Permit Coordination: The City will not authorize initiation of land disturbance activities until it receives evidence that the applicant has applied for and obtained coverage under the Virginia General Permit for Discharges of Stormwater from Construction Activities for construction activity, including a completed general permit registration statement as required under City Code Section 9-50.

The City continues to require evidence that the applicant has applied for and obtained coverage under the Virginia General Permit for Discharges of Stormwater from Construction Activities per Section 9-50(b)(4) of the City Code. During this reporting period, there were eight sites located within the City that required coverage under the VPDES General Permit for the Discharge of Stormwater.

BMP 4.4. Land Disturbing Activity Inspections: The City will maintain a land disturbance inspection program that is consistent with the requirements of Section 9-39 of the City Code. In addition, as part of these inspections, the City will inspect sites for compliance with Section 9-58 of the City Code requiring implementation of a pollution prevention plan and Section 9-67 of the City Code requiring compliance with the approved stormwater management plan. The City will enforce these requirements as authorized and in accordance to Chapter 9 of the City Code.

The City continues to maintain an inspection program in accordance with Sections 9-39 and 9-67 of the City Code. The City's inspection program provides for inspection of land disturbing activities during construction to ensure compliance with:

- *Approved erosion and sediment control plans*
- *Approved stormwater management plans*
- *Development, updating, and implementation of pollution prevention plans*
- *Development and implementation of any additional control measures necessary to address TMDLs*

During this reporting period, there were a total of 343 inspections conducted across all construction sites located within the City.

BMP 4.5. Land Disturbing Activity Tracking and Recordkeeping: The City has an existing program to track land disturbance activities to provide the necessary information for routine inspections, as-built inspections, surveys, and determining which areas may be most likely to incur heavier than normal sediment loading. Plan approval records and inspections will be tracked and documented in the City's digital records system, SunGard.

During this reporting cycle, there were 35 Land Disturbance Permit Applications submitted, reviewed, and subsequent permits issued by the City.

Additional Reporting Requirements:

The operator shall track regulated land-disturbing activities and submit the following information in all annual reports: (1) Total number of regulated land-disturbing activities; (2) Total number of acres disturbed; (3) Total number of inspections conducted; and (4) A summary of the enforcement actions taken, including the total number and type of enforcement actions taken during the reporting period.

The following statistics apply to this reporting period:

Table 4. Regulated Land-Disturbing Activities

ITEM	TOTAL
Land Disturbing Permits Issued	35
Disturbed Acres	42.64
Inspections Conducted	343
Written Enforcement Actions Necessary	2

V. Post Construction Stormwater Management in New Development and Development on Prior Developed Lands

BMP 5.1. Legal Authority - SWM: The City will maintain the legal authority necessary to implement a VSMP that is consistent with 9VAC25-870-10 et. seq. This legal authority is established at Chapter 9, Section III of the City Code.

The City continues to maintain the legal authority for implementation of a local Virginia Stormwater Management Program (VSMP) consistent with 9VAC25-870-10 through the City's Water Protection Ordinance (Chapter 9, Article III of the City Code). Furthermore, the City provides a link to Chapter 9 of the City Code on the following website: http://www.winchesterva.gov/engineering/stormwater. *The City provides access to a downloadable Virginia Stormwater Management Program Permit Package on the following website: http://www.winchesterva.gov/engineering/permits.*

BMP 5.2. Private Stormwater Management Facility Inspections: The City will maintain a post development stormwater management facility inspection program in accordance with Section 9-67 of the City Code. Inspections on such facilities will be conducted at least once every five (5) years. Under required maintenance agreements executed by and between a private landowner (BMP 5.3), the City is provided with right-of-access to the private property on which a stormwater BMP is located, confers responsibility for construction and maintenance to the private landowner or property owners' association, and ensures that the City can undertake steps to maintain a facility should an inspection identify any deficiencies or problems. Maintenance agreements are recorded with the title to the property, providing the City with an enforceable legal instrument should a private landowner neglect to maintain a stormwater management facility constructed on his or her property. Inspection records will be kept on file with the City Engineer's Division.

The City continues to maintain a post development stormwater management facility inspection program in accordance with Section 9-67 of the City Code. During this reporting period, there were 22 private stormwater management facility inspec*tions performed. Based on these inspections, there were no facilities that required enforcement actions or follow-up maintenance.*

BMP 5.3. Maintenance Agreements: The City will require executed maintenance agreements for stormwater management facilities in accordance to Section 9-63 of the City Code. The agreement shall be recorded in the office of the Clerk of the Circuit Court for the City of Winchester. A copy of the City of Winchester Stormwater Facilities/BMP Maintenance Agreement is included in the Virginia Stormwater Management Program Permit Application.

The City continues to require the execution of maintenance agreements for private stormwater management facilities in accordance with Section 9-63 of the City Code. During this reporting

period, there were seven maintenance agreements executed with the City and recorded in the office of the Clerk of the Circuit Court for the City of Winchester.

BMP 5.4. City-Owned Stormwater Management Facility Inspections: The City Division of Engineering will inspect stormwater management facilities owned/operated by the City annually using procedures identified in the Public Stormwater Management Facility Inspection Standard Operating Procedures Manual, June 2014 edition. Copies of the inspections will be kept on file with the City Engineer's Division.

The City continued with its program to inspect stormwater management facilities owned/operated by the City annually. During this reporting period, there were six City owned/operated stormwater facilities that were inspected. Copies of the inspection reports are available in the City Engineer's office.

BMP 5.5. City-Owned Stormwater Management Facility Maintenance: The City Division of Public Works will conduct maintenance on City-Owned Stormwater Management Facilities as necessary and in response to Division of Engineering inspections.

Based on the results of the inspections of the six City owned/operated stormwater management facilities, none of these facilities required maintenance or follow-up inspections.

BMP 5.6. Tracking and Documentation: The City will track and document permanent stormwater management facilities in the City's BMP spreadsheet maintained by the City Engineering Division.

An updated electronic database/spreadsheet of all known operator-owned and privately-owned stormwater management facilities that discharge into the MS4 is provided on a DVD under Attachment 5 to this Annual Report.

Additional Reporting Requirements:

The operator shall maintain an updated electronic database of all known operator-owned and privately-owned stormwater management facilities that discharge into the MS4. The operator shall submit an electronic database or spreadsheet of all stormwater management facilities brought online during each reporting year with the appropriate annual report.

An updated electronic database/spreadsheet of all known operator-owned and privately-owned stormwater management facilities that discharge into the MS4 is provided on a DVD under Attachment 5 to this Annual Report.

The operator shall annually track and report the total number of inspections completed and, when applicable, the number of enforcement actions taken to ensure long-term maintenance.

During this reporting period, there were 22 private stormwater management facility inspections performed and 6 City owned/operated stormwater facility inspections performed. Based on these inspections, there were no enforcement actions required to ensure long term maintenance of these facilities.

VI. Pollution Prevention/Good Housekeeping for Municipal Operations

BMP 6.1. Standard Operating Procedures: The City will develop and implement standard operating procedures and pollution prevention methods for its daily operational activities.

During this reporting period, the City developed written Standard Operating Procedures (SOPs) for Daily Good Housekeeping and Pollution Prevention. The Pollution Prevention/Good Housekeeping for Municipal Operations - Standard Operating Procedures 2013-2018 can be found in Attachment 3. This document outlines the SOPs and the roles and responsibilities of the City Divisions involved.

BMP 6.2. Stormwater Pollution Prevention Plans: The City will develop a stormwater pollution prevention plan (SWPPP) for the equipment and maintenance facility located at Jim Barnett Park.

In accordance with Section II.B.6.b(3) and Table 1 of the City's MS4 Permit, a SWPPP for the equipment and maintenance facility located at Jim Barnett Park will be developed and implemented by June 30, 2017.

BMP 6.3. Nutrient Management Plans: NMPs will be developed by a certified turf and landscape nutrient management planner in accordance with § 10.1-104.2 of the Code of Virginia. NMPs must be renewed every three years. Copies of the nutrient management plans will be incorporated by reference into the MS4 Program Plan upon approval.

In accordance with Section II.B.6.c(1)(b) and Table 1 of the City's MS4 Permit, NMPs for all applicable sites, as identified in the City's NMP Facility Evaluation, will be developed by a certified turf and landscape nutrient management planner and implemented by June 30, 2016.

BMP 6.4. Pollution Prevention Inspections: The City will conduct an annual pollution prevention inspection at the equipment and maintenance facility located at Jim Barnett Park.

This BMP will be implemented in conjunction with the development and implementation of the facility's SWPPP by June 30, 2017.

BMP 6.5. Staff Training: The City will conduct staff training in accordance with the training schedule and training modules included in the City of Winchester Stormwater Training Plan, June 2014 edition. The City will ensure necessary certifications identified in the training plan are maintained.

The City continued implementation of the City of Winchester Stormwater Training Plan dated June 2014. The following is a list of training events held during this reporting period:

- *Training Module #1 – Recognition and Reporting of Illicit Discharges*
  - *March 4, 2015 – 33 attendees*
  - *March 18, 2015 – 16 attendees*
  - *March 19, 2015 – 23 attendees*
- *Training Module #2 – Pollution Prevention for Road, Street and Parking Maintenance*
  - *March 18, 2015 – 16 attendees*
  - *March 19, 2015 – 16 attendees*
- *Training Module #3 – Pollution Prevention for Fleet and Public Works Facilities*
  - *March 4, 2015 – 32 attendees*

  - *March 18, 2015 – 16 attendees*
  - *March 19, 2015 – 24 attendees*
- *Training Module #4 – Minimizing Stormwater Pollution Practices for Parks and Rec Facilities*
  - *March 4, 2015 – 33 attendees*
  - *March 19, 2015 – 7 attendees*

BMP 6.6. Street Sweeping: The City will continue its street sweeping program and track the amount of litter and debris removed.

During this reporting period, the City swept approximately 5,461 lane miles of roadways within the City.

BMP 6.7. VPDES Industrial Stormwater Permit Compliance Coordination: As part of the MS4 Program, the City will confirm that the City Yards maintains a current Stormwater Pollution Prevention Plan (SWPPP) as required under the Virginia General Permit for Discharge of Stormwater from Industrial Activities.

The City Yards facility continues to maintain a current Stormwater Pollution Prevention Plan (SWPPP) dated June, 2014. The City also continued coverage under the Virginia General Permit for Discharge of Stormwater from Industrial Activities for this facility as evidenced by the letter from DEQ that is provided here in Attachment 6.

Additional Reporting Requirements:

Provide a summary report on the development and implementation of the daily operational procedures.

The City developed written Standard Operating Procedures (SOPs) for Daily Good Housekeeping and Pollution Prevention. The Pollution Prevention/Good Housekeeping for Municipal Operations - Standard Operating Procedures 2013-2018 can be found in Attachment 3. This document outlines the SOPs and the roles and responsibilities of the City Divisions involved.

Provide a summary report on the development and implementation of the required SWPPPs.

In accordance with Section II.B.6.b(3) and Table 1 of the City's MS4 Permit, a SWPPP for the equipment and maintenance facility located at Jim Barnett Park will be developed and implemented by June 30, 2017.

Provide a summary report on the development and implementation of the turf and landscape nutrient management plans that includes: *(a) The total acreage of lands where turf and landscape nutrient management plans are required; and* *(b) The acreage of lands upon which turf and landscape nutrient management plans have been implemented.*

In accordance with Section II.B.6.c(1)(b) and Table 1 of the City's MS4 Permit, NMPs for all applicable sites, as identified in the City's NMP Facility Evaluation, will be developed will be developed by a certified turf and landscape nutrient management planner and implemented by June 30, 2016.

Provide a summary report on the required training, including a list of training events, the training date, the number of employees attending training and the objective of the training.

The City continued implementation of the City of Winchester Stormwater Training Plan dated June 2014. The following is a list of training events held during this reporting period:

- *Training Module #1 – Recognition and Reporting of Illicit Discharges*
  - *March 4, 2015 – 33 attendees*
  - *March 18, 2015 – 16 attendees*
  - *March 19, 2015 – 23 attendees*
- *Training Module #2 – Pollution Prevention for Road, Street and Parking Maintenance*
  - *March 18, 2015 – 16 attendees*
  - *March 19, 2015 – 16 attendees*
- *Training Module #3 – Pollution Prevention for Fleet and Public Works Facilities*
  - *March 4, 2015 – 32 attendees*
  - *March 18, 2015 – 16 attendees*
  - *March 19, 2015 – 24 attendees*
- *Training Module #4 – Minimizing Stormwater Pollution Practices for Parks and Rec Facilities*
  - *March 4, 2015 – 33 attendees*
  - *March 19, 2015 – 7 attendees*

3.0 Results of Collected Data

Results of information collected and analyzed, including monitoring data, if any, during the reporting period.

During Year 2 of the Permit, the City of Winchester was not required to collect and analyze any formal monitoring data.

4.0 Future Stormwater Activities

A summary of the stormwater activities the operator plans to undertake during the next reporting cycle.

During the next reporting period, the City plans to continue implementation of the 40 BMPs contained in its current 2014-2018 MS4 Program Plan. Additionally, in order to comply with the MS4 General Permit's compliance schedule (Table 1) and other permit requirements, the City plans to undertake the following activities as well:

- *Develop (using a certified turf and landscape nutrient management planner) and implement Nutrient Management Plans (NMPs) for all applicable sites, as identified in the City's NMP Facility Evaluation.*

5.0 Changes in BMPs and Measurable Goals

A change in any identified best management practices or measurable goals for any of the minimum control measures including steps to be taken to address any deficiencies.

5.1. Changes in BMPs/Program Elements

The City does not plan to make any changes to the BMPs/Program Elements listed in its 2014-2018 MS4 Program Plan at this time.

5.2. Changes in Measurable Goals

The City does not plan to make any changes to the measureable goals associated with the BMPs/Program Elements listed in its 2014-2018 MS4 Program Plan at this time.

6.0 Government Reliance for Permit Obligations

Notice that the operator is relying on another government entity to satisfy some of the State permit obligations (if applicable).

At this time, the City is not relying on any other government entity to satisfy any direct permit obligations.

7.0 Section II C Program Status

The approval status of any programs pursuant to Section II C (if appropriate), or the progress towards achieving full approval of these programs.

The City does operate a local Erosion and Sediment Control Program consistent with the requirements contained in Section 62.1-44-15:54 of the State Water Control Law and Section 9VAC25-840 of the Virginia Administrative Code. The City also operates a local Virginia Stormwater Management Program consistent with the requirements contained in Section 62.1-44.15:27 of the State Water Control Law and Section 9VAC25-870 of the Virginia Administrative Code. Both of these City programs have been found to be in compliance with their respective regulatory requirements by the appropriate oversight agencies in Virginia.

8.0 General Permit Section I Information

Information required for any applicable TMDL special condition contained in Section I.

In accordance with Section I.B, Section I.C, and Table 1 in the MS4 General Permit, the City has prepared and submitted an Abrams Creek and Lower Opequon Creek Combined Sediment and Bacteria TMDL Action Plan (Attachment 1) as well as a Chesapeake Bay TMDL Action Plan (Attachment 2) with this Annual Report.

Attachment 1. Abrams Creek and Lower Opequon Creek Combined Sediment and Bacteria TMDL Action Plan

Abrams Creek and Lower Opequon Creek Combined

Sediment and Bacteria TMDL Action Plan

PERMIT NUMBER VAR040053

Submitted to DEQ:

October 2015

CITY OF WINCHESTER, VIRGINIA - ABRAMS CREEK AND LOWER OPEQUON CREEK COMBINED SEDIMENT AND BACTERIA TMDL ACTION PLAN

INTRODUCTION

The City of Winchester has prepared this Abrams Creek and Lower Opequon Creek Combined Sediment and Bacteria TMDL Action Plan to address the Special Condition for approved local TMDLs (Section I.B) in the City's MS4 Permit. The City's approach for preparation of this Action Plan is based on the requirements listed in the MS4 General Permit and DEQ's Draft Local TMDL Action Plan Guidance Document that was released on 4/9/2015. Each of the sections in this Action Plan will address one or more of the required action plan content items as listed on page 4 of DEQ's Draft Local TMDL Action Plan Guidance Document.

TMDL BACKGROUND INFORMATION

1. *The name(s) of the Final TMDL report(s);*
2. *The pollutant(s) causing the impairment(s);*
3. *The WLA(s) assigned to the MS4 as aggregate or individual WLAs.*
   [This section of the Action Plan directly addresses Section I.B of the MS4 Permit and DEQ Guidance Document Action Plan Content Items1-3]

The City of Winchester was assigned aggregated Waste Load Allocations (WLAs) under the approved TMDL report entitled *Opequon Watershed TMDLs for Benthic Impairments: Abrams Creek and Lower Opequon Creek, Frederick and Clarke Counties, Virginia dated July 2003 and Revised October 2003*. Stream segments on Abrams Creek (Segment ID: VAV-B09R_ABR01A00) and the Lower Opequon Creek (Segment ID: VAV-B09R_OPE01A00) were both listed as impaired on Virginia's Section 303(d) Total Maximum Daily Load Priority List and Report due to water quality violations of the general standard (listed as a benthic impairment). Analyses of physical, chemical, biological, and observational data indicated that sediment was the most probable cause of the benthic impairments in both stream segments. TMDLs were therefore developed for sediment to address the benthic impairments in Abrams Creek and Lower Opequon Creek. The City of Winchester (VAR040053) and VDOT (VAR040032) MS4s were assigned aggregated WLAs in the Final TMDL report as follows:

- Abrams Creek TMDL Sediment WLA = 442.7 Metric Tons/Year or 975,985 lbs/year
- Lower Opequon Creek Sediment WLA = 269.2 Metric Tons/Year or 593,484 lbs/year

The City of Winchester was also assigned an aggregated WLA under the approved TMDL report entitled *Bacteria TMDLs for Abrams Creek and Upper and Lower Opequon Creek Located in Frederick and Clarke County, Virginia dated October 2003 and Revised January 2004*. Stream segments on Abrams Creek (Segment ID: VAV-B09R_ABR01A00), Upper Opequon Creek (Segment ID VAV-B08R_OPE01A00), and the Lower Opequon Creek (Segment ID: VAV-

B09R_OPE01A00) were listed as impaired on Virginia's Section 303(d) Total Maximum Daily Load Priority List and Report due to water quality violations of the general standard for fecal coliform. In order to remedy the water quality impairment pertaining to fecal coliform, TMDLs were developed for the new water quality standards for bacteria, which state that the calendar-month geometric mean concentration of E. coli shall not exceed 126 cfu/100 mL, and that no single sample can exceed a concentration of 235 cfu/100mL. The City of Winchester (VAR040053) and VDOT (VAR040032) MS4s were assigned an aggregated WLA in the Final TMDL report as follows:

- Abrams Creek TMDL Bacteria WLA = $19.4x10^{12}$ cfu/year fecal coliform

The remainder of this Action Plan will focus on addressing the City's plan for complying with the WLAs assigned to the City under both of these TMDLs.

SIGNIFICANT SOURCES OF POC(S)

4. *Significant sources of POC(s) from facilities of concern owned or operated by the MS4 operator that are not covered under a separate VPDES permit. A significant source of pollutant(s) from a facility of concern means a discharge where the expected pollutant loading is greater than the average pollutant loading for the land use identified in the TMDL.*
   [This section of the Action Plan directly addresses Section I.B.2.d of the MS4 Permit and DEQ Guidance Document Action Plan Content Item 4]

During the first half of 2013, the City's engineering consultant evaluated City owned/operated properties for potential sources of pollutants for which the City was assigned a waste load allocation (WLA) in a State Water Control Board approved Total Maximum Daily Load (TMDL). The consultant performed an initial potential source evaluation task that utilized the City's Geographic Information System (GIS) to identify and characterize eighty one City owned/operated properties for land use type (the City's zoning layer) and the presence/absence of MS4 outfalls on the property. The outcome of the initial potential source evaluation task identified six City owned/operated properties requiring further site review and runoff characterization.

The City owned/operated properties found to require a site review and runoff characterization triggered an on-site field reconnaissance task to review and assess the on-the-ground conditions for each of the City owned/operated properties. The consultant documented potential pollutant of concern (POC) generating activities (storage, transfer, transport, or disposal) on each site, stormwater pollution potential from the site (exposure to precipitation), and locations of outfalls. Based on the results of this study, the City incorporated additional pollution prevention activities and training materials into the Pollution Prevention/Good Housekeeping for Municipal Operations (BMPs 6.1 thru 6.7) section of its MS4 Program Plan to further address bacteria and sediment as pollutants of concern. A copy of the full memo report documenting evaluation of the City owned/operated properties for potential WLA pollutant sources is provided in Attachment 1 to this Action Plan.

EXISTING OR NEW BEST MANAGEMENT PRACTICES

5. *Existing or new management practices, control techniques, and system design and engineering methods , that have been or will be implemented as part of the MS4 Program Plan that are applicable to reducing the pollutant identified in the WLA. [This section of the Action Plan directly addresses Section I.B.2.b of the MS4 Permit and DEQ Guidance Document Action Plan Content Item 5]*

Recognizing that sediment and bacteria pollutant discharges from the City's MS4 need to be controlled to the maximum extent practicable in order to protect the water quality in the streams that flow throughout it, the City's political leadership and staff enacted several changes to the City's Code in order to facilitate a reduction in these pollutant discharges. These Code changes included:

- Reduced the threshold for regulated land disturbing activities from 10,000 ft^2 to 5,000 ft^2 under Chapter 9 Article 2 (Sediment)
- Instituted stream buffer protection under Chapter 9 Article 4 (Sediment and Bacteria)
- Prohibited feeding of waterfowl under Chapter 5 Article 3 (Bacteria)

In addition to these strong legal mechanisms for controlling pollutant discharges, the City also incorporated many new Best Management Practices (BMPs) into its MS4 Program Plan (revised in 2013) that target sediment and bacteria and focus on source control. The following is a list of thirty MS4 Program Plan BMPs that the City is implementing to specifically address the reduction of sediment and bacteria pollutant loads from the City's MS4:

- *BMP 1.1. City Stormwater Webpage (Sediment and Bacteria)* - The City will maintain a web page dedicated to the City's stormwater management program and will distribute stormwater program messages and related information to its citizens via this tool.
- *BMP 1.2. Social Media (Sediment and Bacteria)* - The City will use its Facebook and Twitter accounts to deliver its stomwater program messages and to distribute stormwater related information to its citizens.
- *BMP 1.3. Public Events (Sediment and Bacteria)* - The City will participate in public events such as the Community Wellness Festival to deliver its stomwater program messages and to distribute stormwater related information to its citizens.
- *BMP 1.4. Publications - Print and Electronic (Sediment and Bacteria)* - The City will use publications such as its Cit-E newsletter to deliver its stomwater program messages and to distribute stormwater related information to its citizens.
- *BMP 1.5. Watershed and Stormwater Educational Opportunities Program (Sediment and Bacteria)* - The City will continue to implement its Watershed and Stormwater Opportunities Education Program directed at students in Winchester City Public Schools.

- *BMP 1.6. Other Message Delivery (Sediment and Bacteria)* - The City will utilize other types of message delivery such as "Clean Up After Your Dog" signage at the City's Dog Park to reach targeted audiences within the City.
- *BMP 1.7. Educational Materials (Sediment and Bacteria)* - The City will retain copies (electronic or hard copy) of educational materials utilized in delivery of its messages regarding high priority water quality issues to target audiences.
- *BMP 2.3. Stormwater Complaint Hotlines (Sediment and Bacteria)* - The City will maintain its current stormwater complaint hotlines to encourage public reporting of water quality and stormwater maintenance related issues to include potential illicit discharges to the MS4.
- *BMP 2.4. Promotion of the Local Environmental Events (Sediment and Bacteria)* - The City will annually promote a total of four events encouraging public participation and involvement in Household Hazardous Waste Collection Days and the Adopt-A-Stream program.
- *BMP 2.6. Sponsorship of Adopt-A-Stream Program (Sediment and Bacteria)* - The City will continue to promote the Adopt-A-Stream program by sponsoring an annual stream clean-up day.
- *BMP 3.3. Legal Authority – IDDE (Sediment and Bacteria)* - The City will maintain legal authority prohibiting illicit discharges into the MS4.
- *BMP 3.4. IDDE Investigation and Follow-Up (Sediment and Bacteria)* - The City will investigate and conduct follow-up on potential illicit discharges in accordance with procedures included in the City's Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual.
- *BMP 3.5. MS4 Outfall Dry Weather Field Screening (Sediment and Bacteria)* - The City will conduct dry weather screening on fifty (50) MS4 outfalls annually using procedures included in the City's Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual.
- *BMP 3.6. Illicit Discharge Tracking and Documentation (Sediment and Bacteria)* - The City will track and document suspected and illicit discharges, as well as, the City's investigation, follow-up and enforcement actions in accordance with the procedures included in the City's Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedures Manual.
- *BMP 3.9. Household Waste Reduction (Sediment and Bacteria)* - The City will continue to provide weekly waste collection services for City residents to include fall leaf collection services, yard waste collection services, and bulky waste collection services.
- *BMP 3.10. Elimination of Sanitary Sewage Seepage from Public Sewers (Bacteria)* - The City will continue, as part of its sanitary sewer utilities program, to implement its inflow and infiltration program to replace or slipline sanitary sewers to prevent illicit discharges.
- *BMP 4.1. Legal Authority – E and SC (Sediment)* - The City will maintain legal authority for implementation of a local erosion and sediment control program consistent with 9VAC25-840-10 et. seq.

- *BMP 4.2. Land Disturbing Activity Plan Review (Sediment)* - The City will require submission of complete Land Disturbance Permit Application and Virginia Stormwater Management Program Permit Packages for regulated land disturbance activities.
- *BMP 4.3. VPDES Construction Activity Permit Coordination (Sediment)* - The City will not authorize initiation of land disturbance activities until it receives evidence that the applicant has applied for and obtained coverage under the Virginia General Permit for Discharges of Stormwater from Construction Activities, including a completed general permit registration statement as required under City Code Section 9-50.
- *BMP 4.4. Land Disturbing Activity Inspections (Sediment)* - The City will maintain a land disturbance inspection program consistent with the requirements of Section 9-39 of the City Code to include inspection for compliance with Section 9- 58 of the City Code which requires implementation of a pollution prevention plan and Section 9-67 of the City Code requiring compliance with the approved stormwater management plan.
- *BMP 4.5. Land Disturbing Activity Tracking and Recordkeeping (Sediment)* - The City will maintain its existing program to track land disturbance activities which provides the necessary information for routine inspections, as-built inspections, surveys, and determining which areas may be most likely to incur heavier than normal sediment loading.
- *BMP 5.2. Private Stormwater Management Facility Inspections (Sediment and Bacteria)* - The City will maintain a post development stormwater management facility inspection program in accordance with Section 9-67 of the City Code and will perform inspections on these facilities at least once every five (5) years.
- *BMP 5.3. Maintenance Agreements (Sediment and Bacteria)* - The City will continue to require executed maintenance agreements for stormwater management facilities in accordance with Section 9-63 of the City Code.
- *BMP 5.4. City-Owned Stormwater Management Facility Inspections (Sediment and Bacteria)* - The City Division of Engineering will inspect stormwater management facilities owned/operated by the City annually using procedures identified in the Public Stormwater Management Facility Inspection Standard Operating Procedures Manual.
- *BMP 5.5. City-Owned Stormwater Management Facility Maintenance (Sediment and Bacteria)* - The City Division of Public Works will conduct maintenance on City-Owned Stormwater Management Facilities, as necessary, and in response to Division of Engineering inspections.
- *BMP 6.1. Standard Operating Procedures (Sediment and Bacteria)* - The City will develop and implement standard operating procedures for pollution prevention to be incorporated into daily operational activities.
- *BMP 6.2. Stormwater Pollution Prevention Plans (Sediment and Bacteria)* - The City will develop a stormwater pollution prevention plan (SWPPP) for the equipment and maintenance facility located at Jim Barnett Park.
- *BMP 6.4. Pollution Prevention Inspections (Sediment and Bacteria)* - The City will conduct an annual pollution prevention inspection at the equipment and maintenance facility located at Jim Barnett Park.

- *BMP 6.5. Staff Training (Sediment and Bacteria)* - The City will conduct staff training in accordance with the training schedule and training modules included in the City of Winchester Stormwater Training Plan.
- *BMP 6.6. Street Sweeping (Sediment and Bacteria)* - The City will continue its street sweeping program and track the amount of litter, sediment, and debris removed.

More detailed descriptions for each of these BMPs can be found in the City's MS4 Program Plan which is available for download at http://www.winchesterva.gov/engineering/stormwater . The City plans to continue implementation of these BMPs to address the sediment and bacteria WLAs listed in the aforementioned TMDLs. Based on the results of the City's Action Plan assessment methodology (as described in Section 9 of this Action Plan), an adaptive iterative approach will be used to enhance/replace these BMPs to achieve the most effective plan for reducing the discharge of sediment and bacteria from the City's MS4 and to meet the assigned TMDL WLAs.

LEGAL AUTHORITIES

6. *Legal authorities such as ordinances, state and other permits, orders, specific contract language, and inter-jurisdictional agreements applicable to reducing the POCs identified in each respective TMDL.*
[This section of the Action Plan directly addresses Section I.B.2.a of the MS4 Permit and DEQ Guidance Document Action Plan Content Item 6]

The City has reviewed its MS4 Program Plan and ordinances to evaluate its ability to comply with the Special Condition for approved (other than the Chesapeake Bay TMDL) TMDLs (Section I.B) in the MS4 Permit. Based on this review, it is our opinion that Winchester does not require any new or modified legal authorities or policies to meet the requirements of this special condition. The following is a list of the City's relevant existing legal authorities and policies:

- City of Winchester's Water Protection Ordinance (Chapter 9 of the City Code)
- City of Winchester's MS4 Program Plan
- City of Winchester's Public Services Standards Manual
- City of Winchester's Animals and Fowl Ordinance (Chapter 5 of the City Code)

However, the City may choose to coordinate with other adjacent MS4s (Frederick County Public Schools and VDOT) and explore the idea of establishing memoranda of understanding (MOU) to clarify MS4 service boundary lines and inter-jurisdictional responsibilities for POC loads and subsequent required POC load reductions in the future.

ENHANCEMENTS TO PUBLIC EDUCATION, OUTREACH, AND EMPLOYEE TRAINING

7. *Enhancements to public education, outreach, and employee training programs to also promote methods to eliminate and reduce discharges of the POC(s) for which a WLA has been assigned.*

[This section of the Action Plan directly addresses Section I.B.2.c of the MS4 Permit and DEQ Guidance Document Action Plan Content Item 7]

Enhancements to Public Education and Outreach Program

The City continues to implement a very robust public education and outreach program as part of its MS4 Program Plan. The City's webpage is the primary public education and outreach tool utilized for reaching the program's targeted audiences and providing for distribution of educational materials to convey the appropriate messages. Publications currently available for download from the City's Stormwater webpage include the following:

- Stormwater Complaint Hotline Flyer (Sediment and Bacteria)
- EPA's "After the Storm" Video Series (Sediment and Bacteria)
- "Pick it Up, It's Your Doodie" Pet Waste Brochure (Bacteria)
- "Please Do Not Feed the Waterfowl" Wildlife Waste Brochure (Bacteria)
- "How to Make Your Own Rain Barrel" Presentation (Sediment)
- "Adopt-A-Stream" Flyer (Sediment and Bacteria)

As can be seen from this list, the City has utilized several of these publications to directly address the pollutants of concern (sediment and bacteria) for which a WLA has been assigned to the City. The City has recently added to the list of publications available through the public education and outreach program. The following publications were recently customized for the City's use and are now available for download on the City's stormwater webpage:

- *After the Storm Brochure - English* - English version of this brochure customized with the City's contact information. (Sediment and Bacteria)
- *After the Storm Brochure - Spanish* - Spanish version of this brochure customized with the City's contact information. (Sediment and Bacteria)
- *SepticSmart Short Rack Brochure in English* - English version of this brochure customized with the City's contact information. (Bacteria)
- *SepticSmart Short Rack Brochure in Spanish* - English version of this brochure customized with the City's contact information. (Bacteria)
- *Make Your Home the Solution to Stormwater Pollution Brochure* - English version of this brochure customized with the City's contact information. (Sediment and Bacteria)
- *Kids Stormwater Stickers* - Print sheets of stormwater stickers that can be printed on sticky back paper. (Sediment and Bacteria)

These new publications will also be distributed at future public events. The City is seeking to broaden its reach of the targeted audiences for reduction of sediment and bacteria discharges by offering several of these publications in both English and Spanish.

Another enhancement to the City's program designed specifically to address source control of bacteria is the City's promotion of picking up pet waste through the use of "*Clean Up After Your*

Dog" signs which were placed at the Dog Park located in Jim Barnett Park. These signs along with the dog park rules clearly inform pet owners that they must clean up after their pets with the supplied waste bags and dispose of the bags in the provided sealed container located in the park.

Through these enhancements to the City's Public Education and Outreach Program, the City expects to further reduce the discharge of both sediment and bacteria into local streams.

Enhancements to Employee Training Program

The City's employee training program consists of four different PowerPoint training modules. All four modules have been recently modified to specifically address the pollutants of concern (sediment and bacteria) for which a WLA has been assigned to the City. These four training modules and their recent enhancements are described below:

Module 1: Recognition and Reporting of Illicit Discharges - Make City staff more aware of the City's focus and procedures to prevent, detect, and eliminate illicit discharges. This module was enhanced to include identification and reporting of illicit discharges associated with both sediment and bacteria sources.

Module 2: Pollution Prevention Practices (PPP) used in Road, Street, and Parking Lot Maintenance - Provide City employees an understanding on how to prevent stormwater pollution during the City's street, parking, and drainage operations by adhering to SOPs and good housekeeping practices. This module was enhanced to include prevention of sediment laden runoff from entering the MS4. Specifically the training covers control of concrete cutting slurries, erosion & sediment controls, and building material stockpile protection.

Module 3: Pollution Prevention Practices used for Fleet and Facility Operations - Increase employee awareness on how to reduce stormwater pollution from daily fleet and facility operations by adhering to SOPs and good housekeeping practices. This module was enhanced to include proper storage of materials to minimize the release of sediment into the MS4 and implementation of a SWPPP on the City Yards facility.

Module 4: Minimizing Stormwater Pollution from Parks and Grounds Maintenance - Increase awareness on how to minimize stormwater pollution from parks and ground operation/maintenance activities by adhering to good housekeeping practices. This module was enhanced to include training on proper storage of materials to minimize the release of sediment into the MS4 and promotion of the use of the City's Dog Park along with enforcement of the City's requirements for clean-up and proper disposal of pet waste in City parks. Furthermore this module was enhanced to include landscaping techniques for reducing the congregation of waterfowl and enforcement of the City's ordinance against feeding waterfowl.

BMP/MILESTONES IMPLEMENTATION SCHEDULE

8. A schedule of interim milestones and implementation of the items in 5, 6, and 7. [This section of the Action Plan directly addresses Section I.B.1.b of the MS4 Permit and DEQ Guidance Document Action Plan Content Items 8]

As permitted in Section I.B.1 of the MS4 General Permit and referred to in DEQ's Draft Local TMDL Action Plan Guidance Document, the City is proposing to implement this Action Plan in multiple stages over multiple permit cycles using an adaptive iterative approach. This approach will allow the City to gather the necessary data and information to determine the most effective BMPs/management strategies for controlling POC loads along with identifying targeted areas for their implementation to meet the TMDL WLAs for bacteria and sediment. The following schedule is proposed for implementation of the BMPs and milestone activities included in this Action Plan for the current permit cycle ending on June 30, 2018:

BMP/Milestone Activity	Schedule
Submission of Local TMDL Action Plan to DEQ	October 1, 2015
BMP 1.1. City Stormwater Webpage	Annually
BMP 1.2. Social Media	Annually
BMP 1.3. Public Events	Annually
BMP 1.4. Publications - Print and Electronic	Annually
BMP 1.5. Watershed and Stormwater Educational Opportunities Program	Annually
BMP 1.6. Other Message Delivery	Annually
BMP 1.7. Educational Materials	Annually
BMP 2.3. Stormwater Complaint Hotlines	Annually
BMP 2.4. Promotion of the Local Environmental Events	Annually
BMP 2.6. Sponsorship of Adopt-A-Stream Program	Annually
BMP 3.3. Legal Authority – IDDE	Annually
BMP 3.4. IDDE Investigation and Follow-Up	Annually
BMP 3.5. MS4 Outfall Dry Weather Field Screening	Annually
BMP 3.6. Illicit Discharge Tracking and Documentation	Annually
BMP 3.9. Household Waste Reduction	Annually
BMP 3.10. Elimination of Sanitary Sewage Seepage from Public Sewers	Annually
BMP 4.1. Legal Authority – E and SC	Annually
BMP 4.2. Land Disturbing Activity Plan Review	Annually
BMP 4.3. VPDES Construction Activity Permit Coordination	Annually
BMP 4.4. Land Disturbing Activity Inspections	Annually
BMP 4.5. Land Disturbing Activity Tracking and Recordkeeping	Annually
BMP 5.2. Private Stormwater Management Facility Inspections	Every 5 Years
BMP 5.3. Maintenance Agreements	Annually
BMP 5.4. City-Owned Stormwater Management Facility Inspections	Annually
BMP 5.5. City-Owned Stormwater Management Facility Maintenance	As-Needed
BMP 6.1. Standard Operating Procedures	June 30, 2015
BMP 6.2. Stormwater Pollution Prevention Plans	June 30, 2017
BMP 6.4. Pollution Prevention Inspections	Annually

BMP 6.5. Staff Training	Annually
BMP 6.6. Street Sweeping	Annually
Prepare WQ Monitoring Program for POC Reductions Assessment	June 30, 2016
Purchase WQ Monitoring Equipment & Conduct Training	Aug 15, 2016
Commence WQ Monitoring Program	Sept 15, 2016
Prepare WQ Monitoring Reports	Annually
Prepare Estimate of "End Date" for Compliance with WLAs	March 30, 2018
Identify BMPs to be Implemented During Next Permit Cycle (2018-2023)	March 30, 2018

METHODS TO ASSESS TMDL ACTION PLAN

9. Methods to assess TMDL Action Plans for their effectiveness in reducing the pollutants identified in the WLAs.
[This section of the Action Plan directly addresses Section I.B.2.e of the MS4 Permit and DEQ Guidance Document Action Plan Content Item 9]

In order to assess the effectiveness of the City's Abrams Creek and Lower Opequon Creek Combined Sediment and Bacteria TMDL Action Plan, the City plans to prepare a Water Quality (WQ) Monitoring Program to be initiated during this permit cycle. The City envisions collecting water quality samples (TSS and fecal coliform) twice a year from representative MS4 outfalls that discharge into the impaired reaches of Abrams Creek and Lower Opequon Creek. The City will utilize the water quality data collected under the monitoring program to: Identify potential sources of discharge of the POCs; target locations within the MS4 permit area for implementation of BMPs; and ultimately to assess the overall effectiveness of the Action Plan in reducing the discharge of the POCs from the City's MS4.

In accordance with the schedule provided in Section 8 of this Action Plan, the WQ Monitoring Program will be fully developed by June 30, 2016 and documentation of the program details will be submitted to DEQ with the City's next Annual Report which is due on October 1, 2016. After commencement of the WQ Monitoring Program and appropriate amounts of sampling data become available, the City will analyze the data to determine if any adjustments are necessary to the Action Plan with regards to the BMPs/management strategies for controlling POC loads. This analysis may include utilization of a stormwater runoff/pollutant loading model such as L-THIA for estimation of the POC loads coming from the City's MS4. At the end of each MS4 permit reporting period, the City will also prepare annual WQ monitoring reports to be included with the City's MS4 Annual Report.

MEASURABLE GOALS AND METRICS TO TRACK COMPLIANCE

10. Measurable goals and the metrics that the permittee and Department will use to track those goals (and the milestones required by the permit). Evaluation metrics other than monitoring may be used to determine compliance with the TMDL(s).
[This section of the Action Plan directly addresses Section I.B.1.b of the MS4 Permit and DEQ Guidance Document Action Plan Content Item 10]

The City intends to demonstrate its progress on implementation of this Action Plan by tracking, monitoring, and reporting on BMP/milestone activity progress in its MS4 Program Annual Report that is submitted to DEQ on October 1st of each permit year. In the Annual Report, the City will provide updates on the status of each of the BMP/milestone activities listed under Section 8 of this Action Plan to include compliance with the proposed schedule. In accordance with the adaptive iterative approach adopted by the City, referenced in this Action Plan, the City may modify/replace BMPs, as necessary, to achieve the most effective plan for reducing the discharge of sediment and bacteria from the City's MS4 and meeting the assigned TMDL WLAs.

ATTACHMENT 1 – EVALUATION OF THE CITY OWNED/OPERATED PROPERTIES FOR POTENTIAL WLA POLLUTANT SOURCES REPORT

Memo

To: Ms. Kelly Henshaw

From: GKY & Associates, Inc.

Date: May 30, 2013

Re: Report of Evaluation of City Owned Properties for WLA Pollutant Sources

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Introduction

In accordance with the City of Winchester's MS4 Program plan, GKY & Associates, Inc. (GKY) evaluated City owned/operated properties for potential sources of pollutants for which the City was assigned a waste load allocation (WLA) in a State Water Control Board approved Total Maximum Daily Load (TMDL). GKY performed an initial potential source evaluation task that utilized the City's Geographic Information Systems (GIS) to identify and characterize City owned/operated properties, land use type (the City's zoning layer) for each property and regulated outfall location/presence on each property. The outcome of the initial potential source evaluation task identified City owned/operated properties requiring further site review and runoff characterization. For the City owned/operated properties found to require a site review and runoff characterization, GKY performed field reconnaissance on site to review and assess the on-the-ground conditions for each of the City owned/operated properties and document potential pollution generating activities (storage, transfer, transport, or disposal) on each site, stormwater pollution potential from the site (exposure to precipitation), and locations of outfalls. Detailed summaries for the initial potential source evaluation task and site review task are provided below.

Task 1. Perform Initial Potential Source Evaluation.

GKY utilized the City's GIS to perform a potential source evaluation by combining two data layers provided by the City of Winchester (Winchester_City_Parcels and Corporate_Limits). These two layers were merged with a regulated outfalls layer and overlaid on aerial imagery. Eighty one (81) City owned/operated properties were analyzed based on two criteria that would trigger the need for a field visit to the site. The criteria evaluated were as follows: (1) The presence of regulated outfalls on-site that would allow for an adequate water sampling location, and (2) The presence of potential sources of E.Coli (Animal/Waterfowl activity) or TSS (Denuded Areas or stockpiling)

Based on the GIS analysis, it was determined that six (6) City owned/operated properties met both criteria laid forth to warrant a site review. The sites are listed in Table 1.

Table 1. GIS determination of City owned or operated sites requiring a site field visit.

Site	Site Name	Site Address
1	Hollingsworth House	E S 1360 South Pleasant Valley Road
2	Moose Lodge	S S 215 East Cork Street
3	Court Square Auto park	E S 4-10 South Cameron Street
4	Jim Barnett Park	S S 1001 East Cork Street
5	Shawnee Springs Reserve	S S 301 East Pall Mall Street
6*	Frederick Douglas Elementary	S S 100 West Cedarmeade Avenue
**Note: Site 6 Was not evaluated per City of Winchester instructions*		

Task 2. Perform Site Reviews.

GKY performed field reconnaissance for each of the sites listed in Table 1 to evaluate and assess potential pollution generating activities on the City owned properties. Furthermore, the field visits allowed the team to analyze the drainage aspects, land cover, and infrastructure (piping, culverts, channels) that would result in determining representative sampling locations. GKY took several photos per site, as well as any important notes. A brief summary of each site, representative photo(s), and an explanation as to whether the site qualifies for sampling is provided below.

Site 1 – Hollingsworth House (Representative sampling locations not present).

The Hollingsworth House sits nested in the lower western corner of Jim Barnett Park. The land cover consists primarily of a grassed property, with a riparian buffer along the banks of the stream that divides the site. Due to the presence of the stream, waterfowl and other animal indicators raise the probability of an *E.Coli* presence. On site there are 3 regulated outfalls, but sampling at these locations would not be representative of the site itself. Two outfalls located closest to the road, drain only the road and none of the site, whereas the third outfall drains the

access road within the site, but doesn't have the sampling indicators needed to justify the presence of E.Coli or TSS. Figure 1 illustrates the land cover characteristics and outfall locations (red asterisks') for the Hollingsworth House.

Figure 1. Hollingsworth House Land Cover and Outfall Locations.

Site 2 – Moose Lodge (Representative sampling locations not present).

The Moose Lodge parcel runs parallel to a concrete channel, which conveys one of the City's urban streams. The property consists primarily of the lodge and its associated parking lot, as well as a grassed area towards the southern part of the site. Four outfalls drain this parcel and the significant presence of leaf detritus, sediment, and plant debris throughout the parking lot provide quality TSS indicators. Originally, this site met all of the criteria set forth to qualify as representative sampling location, but after correspondence with the City it was determined that the City property encompasses only the concrete channel area which includes the outfalls, and not the Moose Lodge property. Site photos are shown in Figures 2 and 3.

Figure 2. Moose Lodge Site Overall

Figure 3. Concrete Channel (Actual City Owned Property)

Site 3 – Court Square Auto Park (Representative sampling locations not present).

Court Square Auto Park is located in Downtown/Old Town Winchester. The property has a large, multi-deck parking garage on it and is almost 100% impervious. An urban stream runs under the parking garage which raises the probability of the presence of E.Coli essentially "on-site", but the representative outfalls derive from the roof drains of the parking garage, which are not likely to be sources of E.Coli or TSS. Due to the lack of optimal sampling locations on site these outfalls would not be classified as a representative outfall sampling locations. Site characteristics and outfalls are shown in Figures 4 and 5.

Figure 4. Court Square outfall locations (Roof Drains)

Figure 5. Stream running parallel and under Court Square Auto Park. Note: The outfalls discharge to the stream, but only drain the parking garage.

Site 4 – Jim Barnett Park (Representative sampling locations not present).

Jim Barnett Park is a large park comprised of several different land covers. The park has recreational fields, drainage ponds, maintenance locations with large stockpiles, and a dog park all having indicators of TSS, E.Coli, or both. The site also has 3 regulated outfalls within the parcel limits. The park is an ideal location for representative sampling, but as seen with the previous sites, the regulated outfalls on site drain adjacent properties and thus cannot adequately represent the City parcel through sampling. Site characteristics are shown in Figures 6 and 7.

Figure 6. Duck Pond with waterfowl present. Note: There is no regulated outfall at the downstream portion of this pond, so sampling cannot be performed.

Figure 7. Regulated outfall within Jim Barnett Park limits. Outfall drains a Shenandoah University owned parking lot.

Site 5 – Shawnee Springs Reserve (Representative sampling location present).

Shawnee Springs Reserve is a wildlife and park area, having open grassed space, wooded riparian areas, a stream that runs the extent of the entire property, and a walking trail for pedestrian use. The site is bordered to the north by the City Yards Facility, and has five regulated outfalls. As seen in the previous sites, the majority of the outfalls drained adjacent properties, and thus cannot be used as representative outfalls for that specific site. Of the five

outfalls onsite, only one drained the site, showed the presence of TSS, and could easily be accessed to gather a representative sample, and thus was chosen as a quality sampling location. Figure 8 below shows the entire parcel and identifies the location of the representative outfall. Figures 9 and 10 show the representative outfall and upland drainage contributing to the outfall respectively.

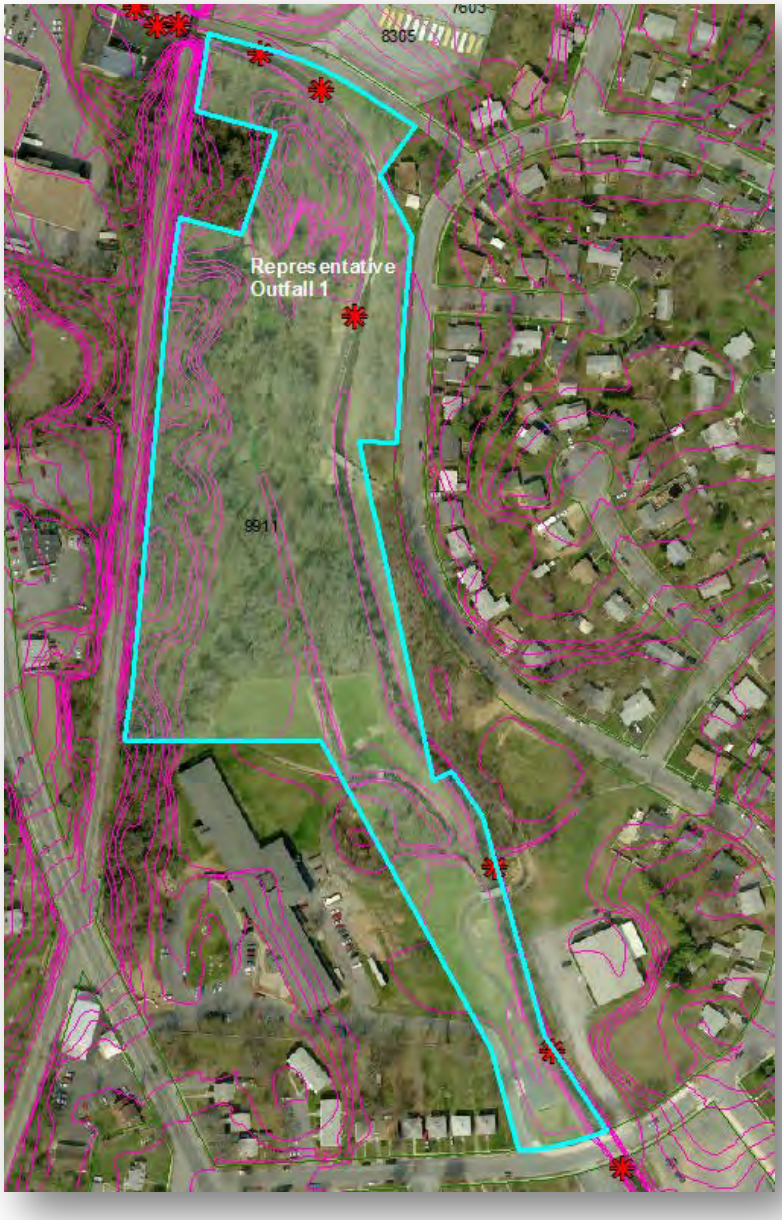


Figure 8. Shawnee Springs Reserve site overall. Representative Outfall 1 is shown in white text.

Figure 9. Front of Representative Outfall 1.

Figure 10. Upland drainage to Representative Outfall 1.

Task 3. Perform Representative Sampling

As part of the site review for Shawnee Springs Reserve, two samples (1) TSS, and (2) E.coli, were required during two sampling periods (October through March and April through September) in order to comply with the sampling procedures set forth in Section I.B.6.a and I.B.6.b of the current Virginia Small MS4 General Permit.

The first sampling took place on February 19, 2013. The field conditions were cold with a temperature right above freezing, and the total precipitation for that day was approximately 0.15 inches. The samples were collected approximately at 8:25 a.m. and received by Environmental Systems Service (ESS) by 10:30 a.m. The lab results are shown in Figure 11. The second of the two samplings took place on May 7, 2013. The field conditions were windy with a mean temperature of 56˚C, and a total daily precipitation of 1.35 inches. The sample was taken approximately at 10:15 a.m. and received by ESS by 12:30 pm. Figure 12 illustrates the sample results. The full laboratory analysis can be seen in Attachment 2.

Sample ID#:	0013520	**Sample Source:**	Winchester VA
Sample Date/Time:	02/19/2013 / 08:25	**Date Received:**	02/19/2013

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Escherichia coli (100 ml)	<1	MPN	1	COLILERT	02/19/2013	11:25	JI
Total Suspended Solids	10.8	mg/l	1.00	SM 19 2540D	02/19/2013	16:07	JI

Figure 11. February 19, 2013 Sample Results

Sample ID#:	0016669	**Sample Source:**	Shawnee Park, Winchester VA
Sample Date/Time:	05/07/2013 / 10:15	**Date Received:**	05/07/2013

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Escherichia coli (100 ml)	161.6	MPN	1	COLILERT	05/07/2013	12:28	JI
Total Suspended Solids	19.6	mg/l	1.00	SM 19 2540D	05/08/2013	10:42	EP

Figure 12. May 7, 2013 Sample Results

Task 4. Estimate Runoff Volume & Pollutant Loads

Per Section I.B.7 of the current Virginia Small MS4 General Permit, the City of Winchester is required to estimate the runoff volume and pollutant loads (for pollutants identified in the WLAs) discharged by the MS4. GKY utilized Purdue University's Long Term Hydrologic Impact Analysis (L-THIA) model to determine the City of Winchester's MS4 hydrologic and non-point source pollutant discharge characteristics.

Model Background and Winchester L-THIA Development

L-THIA is based on more than 30 years of daily precipitation data for the United States. The model is primarily used to estimate changes in recharge, runoff volumes, and non-point source pollutant loads from MS4s for which the City was assigned a waste load allocation (WLA) in a State Water Control Board approved Total Maximum Daily Load (TMDL). The pollutant loading evaluated utilizing L-THIA was TSS and Fecal Coliform, the latter of the two converted to E.*Coli* concentrations using Equation's 1 and 2.

Equation 1. Fecal Coliform (FC) to E.*Coli* Translator Equation for L-THIA Pollutant Loads[1].

$$E.Coli = 0.988 \times FC^{0.919}$$

Where, the bacteria concentrations (FC and E.*Coli*) are millions of coliform.

[1] HSPF Model Calibration and Verification for Bacteria TMDLs, "Guidance Memo No. 03-2012 Commonwealth of Virginia, Department of Environmental Quality, Water Division, September 3, 2003, p.4.

Equation 2. Fecal Coliform (FC) to E.*Coli* Translator Equation for samples[2].

$$E.Coli\ Concentration = 2^{-0.0172} \times (FC\ Concentration^{0.91905})$$

Where, the bacteria concentrations (FC and E.*Coli*) are in cfu/100mL.

[2] Bacteria TMDLs for Abrams Creek and Upper and Lower Opequon Creek Located in Frederick and Clarke County, Virginia, Virginia Tech Department of Biological Systems Engineering, October 2003, Revised January 2004, p.135.

Model Inputs

L-THIA uses the following model inputs to generate pollutant loading results: (1) State and County, (2) Hydrologic Soil Group (HSG), and (3) Land use. Per Winchester's guidance, we utilized the City's zoning layer in GIS and converted their zoning land classifications to match the L-THIA land use classes. The conversions can be seen in Table 2.

After the land use was reclassified, soils data was needed to further develop the model. To date, the City of Winchester hasn't had a detailed soil study performed, and thus state soil survey data was used. The vast majority of the City had HSG B as the underlying soil media, with a small portion of HSG C in the lower south eastern corner.

The land use reclassification and soil group layers were evaluated in GIS to determine the area breakouts for each soil group and corresponding land use. These parameters became the final inputs to the L-THIA model and are summarized in Table 3.

Table 2. Land Use conversion from Winchester Zoning Layer to L-THIA Land use classification.

L-THIA LAND USES	WINCHESTER ZONING CLASSIFICATION	WINCHESTER TO L-THIA
Commercial	Central Business District	Commercial
Industrial	Commercial Industrial District	Commercial
Low Density Residential	Health Services District	Commercial
Agricultural	Highway Commercial District	Commercial
Water/Wetlands	Medical Center District	Commercial
Grass/Pasture	Planned Commercial	Commercial
Forest	High Density Residential District	High Density Residential
High Density Residential	Higher Education District	High Density Residential
	Limited High Density Residential	High Density Residential

	Medium Density Residential District	High Density Residential
	Residential Business District	High Density Residential
	Residential Office District	High Density Residential
	Intensive Industrial District	Industrial
	Limited Industrial District	Industrial
	Education, Institution, and Public Use District	Low Density Residential
	Low Density Residential District	Low Density Residential

Table 3. L-THIA Model Inputs

L_THIA Land Use	Soil Group	Area Total (ac)
Commercial	B	1207.38
High Density Residential	B	1465.51
Industrial	B	336.03
Low Density Residential	B	1772.39
Commercial	C	37.84
High Density Residential	C	74.77
Industrial	C	180.22

Model Results

Once the model inputs were generated, they were run in L-THIA to determine the pollutant loadings for both TSS and Fecal Coliform (Converted to E.Coli using Eq.1). The annual TSS and E.Coli results can be seen in Tables 4 and 5 respectively, and the L-THIA results are provided in Attachment 1.

Table 4. Annual Total Suspended Solids (TSS) in lbs. Pollutant Loading

Land Use	Soil	TSS (lbs.)
Commercial	B	202608
High Density Residential	B	94030
Industrial	B	42113
Low Density Residential	B	34674
Commercial	C	7822
High Density Residential	C	7632
Industrial	C	29343
Total		***418222***

Table 5. Annual E.Coli (millions) Pollutant Loading

Land Use	Soil	E.Coli (millions)
Commercial	B	44034
High Density Residential	B	76384
Industrial	B	13132
Low Density Residential	B	30538
Commercial	C	2213
High Density Residential	C	7599
Industrial	C	9421
Total		***183321***

Task 5. Document Results in a Brief Memorandum Report

This memo report serves as GKY's deliverable under Task 5 of the scope of work.

Attachments

Attachment 1: L-THIA Model Results

SUMMARY OF SCENARIOS
State: Virginia
County: Winchester

Land Use	Hydrologic Soil Group	Current	acres Scenario 1	Scenario 2
Commercial	B	1207.38	0	0
High Density Residential	B	1465.514	0	0
Industrial	B	336.0322	0	0
Low Density Residential	B	1772.39	0	0
Commercial	C	37.84	0	0
High Density Residential	C	74.77	0	0
Industrial	C	180.224	0	0

RUNOFF RESULTS
Avg. Annual Runoff Volume (acre-ft)

Land Use	Current	Scenario 1	Scenario 2
Commercial	1339.84	0	0
High Density Residential	841.73	0	0
Industrial	255.47	0	0
Low Density Residential	310.39	0	0
Commercial	51.72	0	0
High Density Residential	68.32	0	0
Industrial	178.00	0	0
Total Annual Volume (acre-ft)	3045.51	0	0

Avg. Annual Runoff Depth (in)

Current	Scenario 2	Scenario 3
7.20	0	0

Avg. Runoff Depth by Landuse

Land Use	Hydrologic Soil group	Curve Number	Runoff Depth (in)
Commercial	B	92	13.37
High Density Residential	B	85	6.92
Industrial	B	88	9.16
Low Density Residential	B	70	2.11
Commercial	C	94	16.47
High Density Residential	C	90	11.01
Industrial	C	91	11.9
Average Annual Rainfall Depth (in)			39.71

NONPOINT SOURCE POLLUTANT RESULTS

Nitrogen (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	4891	0	0
High Density Residential	4174	0	0
Industrial	877	0	0
Low Density Residential	1539	0	0
Commercial	188	0	0
High Density Residential	338	0	0
Industrial	611	0	0
Total	12618	0	0

Phosphorous (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	1168	0	0
High Density Residential	1307	0	0
Industrial	194	0	0
Low Density Residential	482	0	0
Commercial	45	0	0
High Density Residential	106	0	0
Industrial	135	0	0
Total	3437	0	0

Suspended Solids (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	202608	0	0
High Density Residential	94030	0	0
Industrial	42113	0	0
Low Density Residential	34674	0	0
Commercial	7822	0	0
High Density Residential	7632	0	0
Industrial	29343	0	0
Total	418222	0	0

Lead (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	47	0	0
High Density Residential	20	0	0

Industrial	10	0	0
Low Density Residential	7	0	0
Commercial	1	0	0
High Density Residential	1	0	0
Industrial	7	0	0
Total	93	0	0

Copper (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	52	0	0
High Density Residential	20	0	0
Industrial	10	0	0
Low Density Residential	7	0	0
Commercial	2	0	0
High Density Residential	1	0	0
Industrial	7	0	0
Total	99	0	0

Zinc (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	657	0	0
High Density Residential	183	0	0
Industrial	170	0	0
Low Density Residential	67	0	0
Commercial	25	0	0
High Density Residential	14	0	0
Industrial	118	0	0
Total	1234	0	0

Cadmium (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	3	0	0
High Density Residential	1	0	0
Industrial	1	0	0
Low Density Residential	0.634	0	0
Commercial	0.135	0	0
High Density Residential	0.139	0	0
Industrial	0.970	0	0
Total	6.878	0	0

Chromium (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	36	0	0
High Density Residential	4	0	0
Industrial	4	0	0
Low Density Residential	1	0	0
Commercial	1	0	0
High Density Residential	0.390	0	0
Industrial	3	0	0
Total	49.39	0	0

Nickel (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	43	0	0
High Density Residential	22	0	0
Industrial	5	0	0
Low Density Residential	8	0	0
Commercial	1	0	0
High Density Residential	1	0	0
Industrial	4	0	0
Total	84	0	0

BOD (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	83963	0	0
High Density Residential	58482	0	0
Industrial	9745	0	0
Low Density Residential	21566	0	0
Commercial	3241	0	0
High Density Residential	4747	0	0
Industrial	6790	0	0
Total	188534	0	0

COD (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	423470	0	0
High Density Residential	113524	0	0
Industrial	31672	0	0

Low Density Residential	41863	0	0
Commercial	16349	0	0
High Density Residential	9215	0	0
Industrial	22067	0	0
Total	658160	0	0

Oil & Grease (lbs)

Land Use	Current	Scenario 1	Scenario 2
Commercial	32855	0	0
High Density Residential	3898	0	0
Industrial	2088	0	0
Low Density Residential	1437	0	0
Commercial	1268	0	0
High Density Residential	316	0	0
Industrial	1455	0	0
Total	43317	0	0

Fecal Coliform (millions of coliform)

Land Use	Current	Scenario 1	Scenario 2
Commercial	114496	0	0
High Density Residential	208493	0	0
Industrial	30691	0	0
Low Density Residential	76884	0	0
Commercial	4420	0	0
High Density Residential	16924	0	0
Industrial	21384	0	0
Total	473292	0	0

Fecal Strep (millions of coliform)

Land Use	Current	Scenario 1	Scenario 2
Commercial	298685	0	0
High Density Residential	583782	0	0
Industrial	19300	0	0
Low Density Residential	215276	0	0
Commercial	11531	0	0
High Density Residential	47388	0	0
Industrial	13447	0	0
Total	1189409	0	0

Attachment 2: ESS Lab Results

ESS
Environmental Systems Service, Ltd.

Analytical Report

GKY & Associates
ATTN: Casey Kight
4229 Lafayette Ctr Dr, St 1041
Chantilly, VA 20151

Report Date: 02/25/2013
Job #:
Customer #: 0001470
Customer PO #:
Collected By: Customer
Sample Location:

Sample ID#: 0013520 **Sample Source:** Winchester VA
Sample Date/Time: 02/19/2013 / 08:25 **Date Received:** 02/19/2013

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Escherichia coli (100 ml)	<1	MPN	1	COLILERT	02/19/2013	11:25	JI
Total Suspended Solids	10.8	mg/l	1.00	SM 19 2540D	02/19/2013	16:07	JI

ESS
Environmental Systems Service, Ltd.

Analytical Report

GKY & Associates
ATTN: David Breindel
4229 Lafayette Ctr Dr, St 1850
Chantilly, VA 20151

Report Date: 05/14/2013
Job #:
Customer #: 0001470
Customer PO #:
Collected By: Customer
Sample Location: City of Winchester

Sample ID#: 0016669 **Sample Source:** Shawnee Park, Winchester VA
Sample Date/Time: 05/07/2013 / 10:15 **Date Received:** 05/07/2013

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Escherichia coli (100 ml)	161.6	MPN	1	COLILERT	05/07/2013	12:28	JI
Total Suspended Solids	19.6	mg/l	1.00	SM 19 2540D	05/08/2013	10:42	EP

Attachment 2. Chesapeake Bay TMDL Action Plan

CHESAPEAKE BAY TMDL ACTION PLAN

PERMIT NUMBER VAR040053

Submitted to DEQ:

October 2015

CITY OF WINCHESTER, VIRGINIA - CHESAPEAKE BAY TOTAL MAXIMUM DAILY LOAD (TMDL) ACTION PLAN

INTRODUCTION

The City of Winchester (Winchester) developed this Chesapeake Bay TMDL Action Plan (Action Plan) pursuant to the Special Condition for the Chesapeake Bay TMDL (Section I.C) located in the City's Municipal Separate Storm Sewer System (MS-4) Permit. To assist with the development of the Action Plan, the City utilized both the Department of Environmental Quality's (DEQ) Chesapeake Bay TMDL Special Condition Guidance Document (Guidance Memo No. 15-2005), and the General VPDES Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems, which became effective July 1, 2013. Furthermore, the City used in-house aerial imagery, the Virginia Geographic Information Network (VGIN), and Virginia Environmental Geographic Information Systems (VEGIS), and coupled the imagery with Winchester GIS data, to meet the technical requirements of the Action Plan.

The focus of the Action Plan is driven by the Chesapeake Bay TMDL which was approved by the US Environmental Protection Agency (EPA) in December of 2010. Nitrogen, Total Phosphorous, and Sediment are the Pollutants of Concern (POC) driving the need for required pollutant reductions in the Chesapeake Bay Basin area, which includes Winchester. Three permit cycles have been adopted to address the percent pollutant reduction required by an MS4 in Virginia. A 5% POC load reduction is required by the end of the first permit cycle on June 30, 2018, followed by a 35%, and 60% reduction in the following 2 cycles respectively. For the purposes of this Action Plan, the primary focus will be on Permit Cycle 1 and the associated 5% reduction requirements, although the loadings and reductions have been provided for the 35% and 60% cycles.

This Action Plan details the methodology and results used to develop the required plan components. Detailed sections are provided within the report for the following tasks:

- ***Review of Current MS4 Program and Existing Legal Authority*** - (Addresses Section I.C.2a(1) and I.C.2.a(2) of the MS4 Permit
- ***Data Sources Utilized & Estimate of MS4 Regulated Acreages*** – (Addresses Section I.C.2.a(4) and Section I.C.2.a(5) of the MS4 Permit)
- ***Estimated POC Loads and Required Reductions from Existing Sources*** – (Addresses Section 1.C.2.a(4) and Section I.C.2.a(5) of the MS4 Permit)
- ***Estimated POC Loads and Required Reductions from New and Grandfathered Sources*** – (Addresses Section 1.C.2.a(7) and Section I.C.2.a(8) of the MS4 Permit)
- ***Estimated POC Load Reductions from Existing BMPs*** - (Addresses Section I.C.2.a(6) of the MS4 Permit
- ***Means & Methods Strategy, Schedule, & Estimated Costs*** – (Addresses I.C.2.a(6) and I.C.2.a(11) of the MS4 Permit
- **List of Future Grandfathered Projects** – (Addresses I.C.2.a(10) of the MS4 Permit)
- **Public Comment Process** – (Addresses I.C.2.a(12) of the MS4 Permit)

REVIEW OF CURRENT MS4 PROGRAM AND EXISTING LEGAL AUTHORITY

The jurisdictional area of Winchester lies completely within a 2010 U.S. Census designated urbanized area. As such, the size and extent of the City's MS4 was evaluated based on the City limits. Winchester's MS4 regulated land includes all lands owned and operated by the City, as well as all conveyances and drainage areas served by the City's MS4.

The Virginia Department of Environmental Quality (DEQ) issued a VSMP General Permit for small Municipal Separate Storm Sewer Systems (MS4s) to Winchester (Permit Registration Number: VAR040053) on July 1, 2013. In accordance with the General Permit, Winchester is responsible for developing, implementing and maintaining an MS4 Program that guides design, construction, maintenance, and management of all lands within its jurisdictional area.

The City has reviewed its MS4 Program and the 2014 MS4 Annual Report to evaluate its ability to comply with the Special Condition for the Chesapeake Bay TMDL (Section I.C) in the MS4 Permit. The following is a list of the City's relevant existing legal authorities and policies:

- City of Winchester's Water Protection Ordinance
- City of Winchester's MS4 Program Plan
- City of Winchester's Public Services Standards Manual

Based on this review, it is our opinion that Winchester does not require any new or modified legal authorities or policies in order to meet the requirements of this special condition. However, the City may choose to coordinate with other adjacent MS4s (Frederick County Public Schools and VDOT) and explore the idea of establishing memorandums of understanding (MOU) to clarify MS4 service boundary line(s) and inter-jurisdictional responsibilities for POC loads and subsequent required POC load reductions in the future.

DATA SOURCES UTILIZED & ESTIMATE OF MS4 REGULATED ACREAGE

In order to determine Winchester's MS4 regulated land use acreage as of June 30, 2009, four separate land coverage areas had to be generated. The four land covers needed to develop the Action Plan were impervious land, pervious land, forested land, and open waters. Guidance Memo No. 15-2005 states that VGIN, and subsequently VEGIS, has aerial imagery available which could be used to determine the 2009 land cover conditions. After determining the most recent available VEGIS aerial imagery was flown in 2011 (VBMP2011), the City decided that its own 2010 aerial imagery should be used because it better represents the 2009 land cover condition. Once the best available aerial imagery was determined, the Winchester Corporate Limits GIS polygon shapefile was overlaid on the imagery to determine the extents of the study. The corporate limits shapefile was used as the bounding polygon and each of the four land coverage types were manually digitized with the "cut polygons" tool in Arc Map. The new polygons were then subsequently characterized by their corresponding land cover in the shapefile's attribute table, and the "calculate geometry" tool was run to provide areas for each polygon. Although labor intensive, this methodology was chosen because it was more precise than a raster based land cover processing tool, and it allowed for a simple area check at the end of the process to ensure accuracy.

The four land covers were classified by the following features:

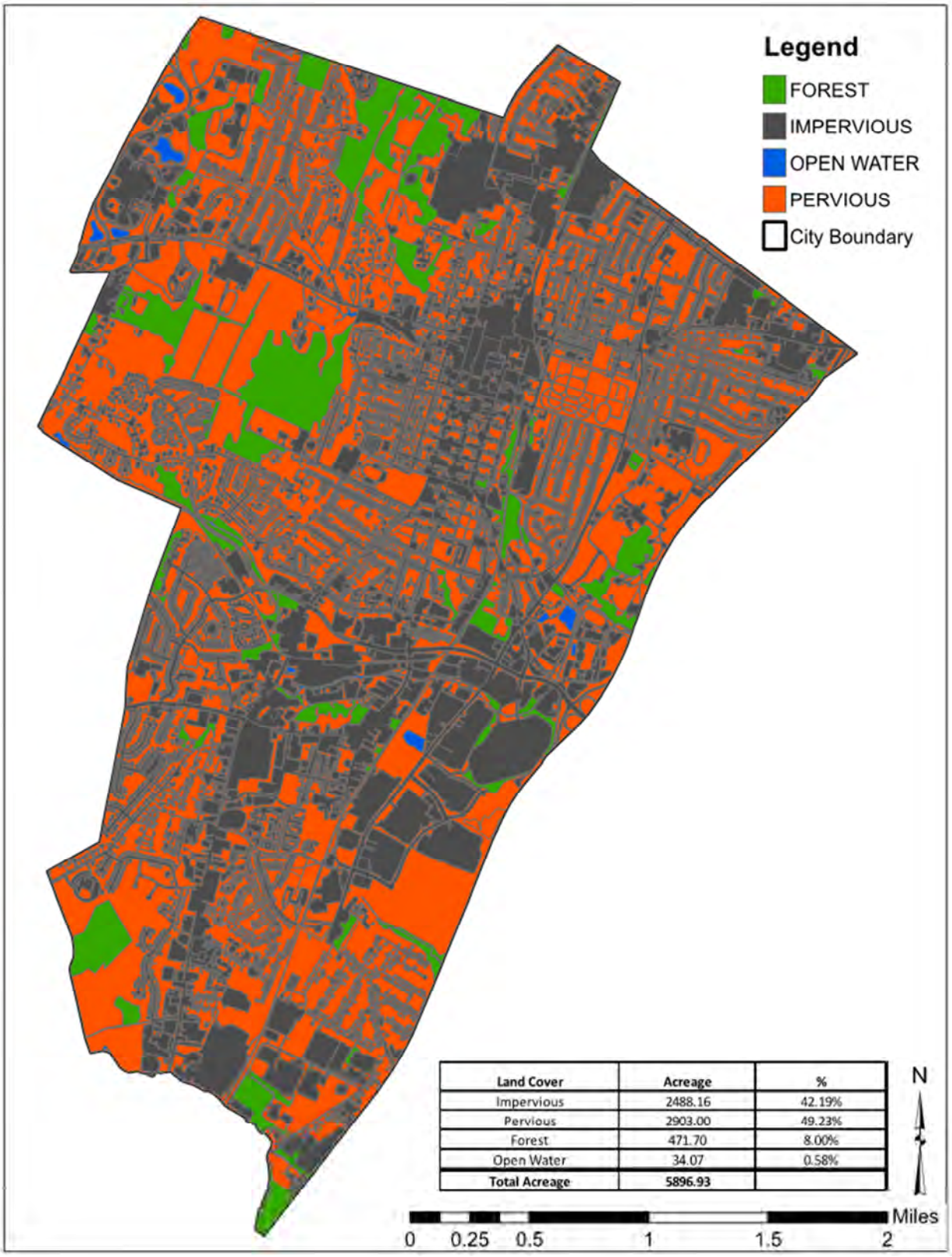
- Pervious land included areas of managed turf, high grass, landscaped and mulched areas, and stands of timber that do not meet the DEQ minimum requirements for forested lands;
- Impervious covers included railroad corridors, compacted gravel areas, roads, parking lots, roofs, and sidewalks;
- Open waters were based off any substantial accumulation of water, such as ponds and above ground streams; and,
- Forested Land;
    - Analysis of available aerial imagery shows that Winchester contains significant tracts of land that appear to be consistent with the definition of "forested lands" as shown in the footnote on page 5 of DEQ's Guidance Document. As such, these lands (shown in Table 1 and Figure 1) were excluded from the regulated urban impervious and regulated urban pervious cover calculations per the DEQ Guidance Document. Lands within Winchester's MS4 service area that contained tree canopy based on the 2010 aerial imagery, but did not appear to meet the aforementioned criteria for forested lands were classified as pervious lands.

Table 1 illustrates Winchester's 2010 Land Cover Summary and corresponding total acreages.

Table 1: 2010 Land Cover Summary

Land Cover	Acreage	%
Impervious	2488.16	42.19%
Pervious	2903.00	49.23%
Forest	471.70	8.00%
Open Water	34.07	0.58%
Total Acreage	5896.93	

The results of the land cover analysis show that Winchester is slightly more pervious than impervious, with a small portion of the land cover having open water characteristics. The land cover polygon shapefile results are illustrated in Figure 1.



Land Cover	Acreage	%
Impervious	2488.16	42.19%
Pervious	2903.00	49.23%
Forest	471.70	8.00%
Open Water	34.07	0.58%
Total Acreage	**5896.93**	

Figure 1: 2010 Land Cover Summary.

EXCLUDED LANDS

Along with forested lands and open waters, all lands owned/operated by a separate MS4 were excluded from the City's regulated area. Furthermore lands regulated under a General VPDES permit for Stormwater Associated with Industrial Activity (VAR05) and lands regulated under an Individual Permit were also excluded. The lands regulated under separate permits are shown in Table 2, and their corresponding locations within Winchester are shown in Figure 2.

Table 2: Excluded Lands regulated under the General VPDES permit for Industrial Stormwater Activity

Facility Name	Address	Permit No.	Permit Type
O'Sullivan Films Inc.	1944 Valley Ave	VAR050810	VPDES General Permit
Rubbermaid Commercial Products LLC	3124 Valley Avenue	VAR050978	VPDES General Permit
Federal Mogul Products Inc. - Winchester	2410 Papermill Road	VA0076384	Individual SW Permit
National Fruit Product Co. Inc.	550 Fairmont Ave	VA0051373	Individual SW Permit

Once the land coverage areas were delineated, the regulated acreage served by the City's MS4 (as of June 30, 2009) was then determined. Using the conservative jurisdictional approach, pervious and impervious lands located within the City's boundary were classified as regulated, excluding the lands covered under a General VPDES Permit as shown in Figure 2. The GIS polygon shapefile shown in Figure 1 was clipped to the polygon shapefile shown in Figure 2, and the land coverage's associated with the VPDES permitted areas were then removed from the Winchester MS4 regulated area. Based on this analysis, Winchester's MS4 regulated area is shown in Figure 3.

Figure 2: Lands Regulated Under a Separate VPDES Permit.

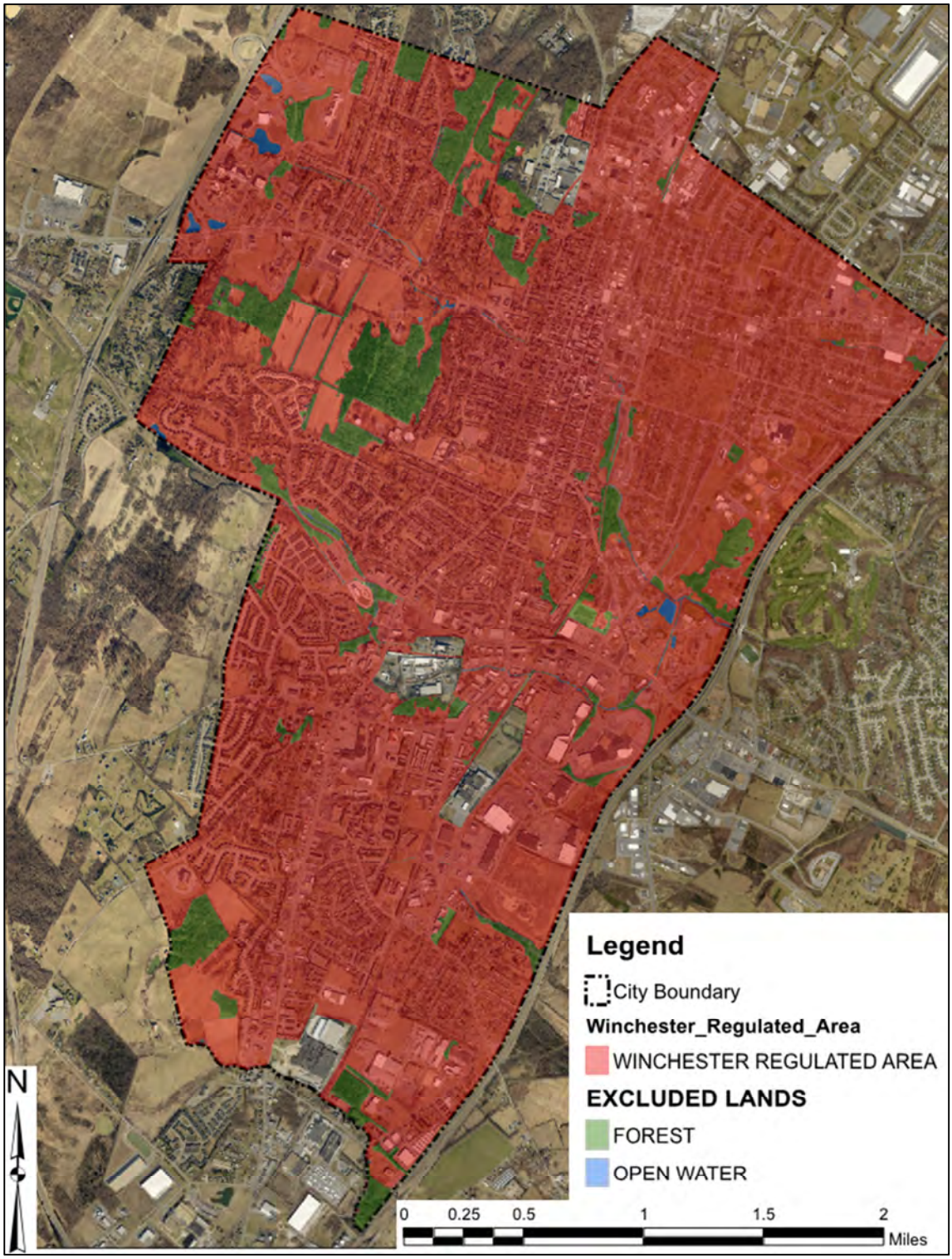


Figure 3: City of Winchester MS4 Regulated Area

ESTIMATED POC LOADS AND REQUIRED REDUCTIONS FROM EXISTING SOURCES

The GIS data created by the steps listed in the previous sections were imperative in determining the regulated pervious and impervious acres served by the City's MS4. The acreages associated with the regulated pervious and impervious areas were input into Table 2b from the MS4 General Permit titled "*Calculation Sheet for Estimating Existing Source Loads for the Potomac River Basin*". Table 2b was then used to derive an estimate of the annual POC loads discharged from Winchester's existing sources as of June 30, 2009. The estimated total POC Loadings for Nitrogen, Phosphorous, and Total Suspended Solids (TSS) were calculated by multiplying the acreages for each land cover (Subsource), by the 2009 Edge of Stream (EOS) loading rate for the corresponding pollutant. Forested lands and open waters were included in the extents of the MS4, but were excluded from the Existing Source POC load calculations shown in Table 3 (Table 2b from the MS4 General Permit Table).

Table 3: Permit Table 2b – Calculation Sheet for Estimating Existing Source Loads from the Potomac River Basin

Table 2b: Calculation for Estimating Existing Source Loads for the Potomac River Basin				
(*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)				
Subsource	**Pollutant**	**Total Existing Acres Served by MS4 (06/30/09)**	**2009 EOS Loading Rate (lbs./acre/yr.)**	**Estimated Total POC Load based on 2009 Progress Run (lbs./yr.)**
Regulated Urban Impervious	Nitrogen	2359.21	16.86	39,776.35
Regulated Urban Pervious		2848.97	10.07	28,689.15
Regulated Urban Impervious	Phosphorus	2359.21	1.62	3,821.97
Regulated Urban Pervious		2848.97	0.41	1,168.08
Regulated Urban Impervious	Total Suspended Solids	2359.21	1171.32	2,763,394.54
Regulated Urban Pervious		2848.97	175.80	500,849.27

The calculations shown in Table 3 illustrate the total POC Loadings for Nitrogen, Phosphorous, and TSS are **68,465.50 lbs./year, 4990.05 lbs./year, and 3,264,243.81 lbs./year** respectively.

The next component of the Action Plan was to calculate the total pollutant load reductions needed to reduce the annual POC loads from existing sources. As stated earlier in the Action Plan, the focus of this iteration of planning was to address the First Permit Cycle (July 1, 2013 to June 30, 2018) and the required 5% POC reductions. The regulated pervious and impervious acreages used to populate Table 3 (Permit Table 2a), were input into Table 4 (Permit *Table 3b from the MS4 General Permit titled "Calculation Sheet for Determining Total POC Reductions Required during the Permit Cycle for the Potomac River Basin*"). The 5% total reduction was calculated by multiplying the acreages for each specified land use, by the required reduction loading rate for its corresponding pollutant. The resultant 5% required reductions for Winchester are shown in Table 4 below.

Table 4: Permit Table 3b – Calculation Sheet for Determining Total POC Reductions Required During the First Permit Cycle for the Potomac River Basin

Table 3b: Calculation Sheet for Determining Total POC Reductions Required During the Permit Cycle for the Potomac River Basin				
(*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)				
Subsource	**Pollutant**	**Total Existing Acres Served by MS4 (06/30/09)**	**First Permit Cycle Required Reduction in Loading Rate (lbs./acre/yr.)**	**5% Total Reduction Required First Permit Cycle (lbs./yr.)**
Regulated Urban Impervious	Nitrogen	2359.21	0.08	188.74
Regulated Urban Pervious		2848.97	0.03	85.47
Regulated Urban Impervious	Phosphorus	2359.21	0.01	23.59
Regulated Urban Pervious		2848.97	0.001	2.85
Regulated Urban Impervious	Total Suspended Solids	2359.21	11.71	27,626.35
Regulated Urban Pervious		2848.97	0.77	2,193.71

The calculations shown in Table 5 illustrate the required 5% reduction in pounds per year for Nitrogen, Phosphorous, and TSS are **274.21 lbs./year, 26.44 lbs./year, and 29,820.06 lbs./year** respectively.

Along with the required 5% reductions, the total POC loads and the extrapolated values for the 35% and 60% reductions for the 2nd and 3rd permit cycles are shown in Table 5.

Table 5: Total POC loads and Required Reductions for the 2nd and 3rd Permit Cycles

Table 3b: Calculation Sheet for Determining Total POC Reductions Required During the Permit Cycle for the Potomac River Basin							
(*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)							
Subsource	**Pollutant**	**Total Existing Acres Served by MS4 (06/30/09)**	**First Permit Cycle Required Reduction in Loading Rate (lbs./acre/yr.)**	**5% Total Reduction Required First Permit Cycle - 6/30/2018 (lbs./acre/yr.)**	**35% Total Reduction Required Second Permit Cycle - 6/30/2023 (lbs./acre/yr.)**	**60% Total Reduction Required Third Permit Cycle - 6/30/2028 (lbs./acre/yr.)**	**Total Reduction (lbs./yr.)**
Regulated Urban Impervious	Nitrogen	2,359.21	0.08	188.74	1,321.16	2,264.85	**3,774.74**
Regulated Urban Pervious		2,848.97	0.03	85.47	598.28	1,025.63	**1,709.38**
Regulated Urban Impervious	Phosphorus	2,359.21	0.01	23.59	165.15	283.11	**471.84**
Regulated Urban Pervious		2,848.97	0.00	2.85	19.94	34.19	**56.98**
Regulated Urban Impervious	Total Suspended Solids	2,359.21	11.71	27,626.40	193,384.81	331,516.82	**552,528.03**
Regulated Urban Pervious		2,848.97	0.77	2,193.71	15,355.96	26,324.50	**43,874.17**

ESTIMATED POC LOADS AND REQUIRED REDUCTIONS FROM NEW AND GRANDFATHERED SOURCES

Special Condition Requirement 7 "New Sources of Construction" (GP Section I.C.2.a (7)) and 8 "Grandfathered Projects" (GP Section I.C.2.a (8)) of the General Permit apply to permittiees that have:

i. Adopted an average impervious land cover condition greater than 16% for the design of post-development stormwater management facilities under the Chesapeake Bay Preservation Act, or

ii. Have allowed projects to be built with an impervious land cover condition greater than 16% for the design of post-development stormwater management facilities through a "fee-in-lieu of" or similar program.

If a permittee has met either of the criteria listed in (i) or (ii) above, then the permittee has to address the requirements set forth in the corresponding Special Condition. This would ultimately require further POC reductions in addition to those required for existing conditions as of June 30, 2009 (GP Section I.C.2.a (6)). The City of Winchester adhered to the technology based criteria under 9VAC25-870-96.C, which in turn stipulated that beyond the reduction requirements for existing conditions as of June 30, 2009, they do not have to compensate for any additional reductions required under Special Condition 7 or 8. This is due to the technology based criteria assuming an average land cover condition of 16% for the design of post-development stormwater management facilities.

ESTIMATED POC LOAD REDUCTIONS FROM EXISTING BMPS

For Winchester to receive credit towards the City's POC load reduction requirements from existing BMPs, methods such as Structural BMPs, Stream Restoration, or Redevelopment scenarios had to have been implemented. These practices had to be installed between June 30, 2009 and June 30, 2014, and also exceed state requirements for water quality. During that time period, Winchester experienced very limited development, and thus the need for water quality BMPs was minimal. Because of this, there are very few, if any, existing BMPs to analyze for excess Phosphorous, Nitrogen and TSS removal credit. Therefore, under this Action Plan, the City is not planning to take any credit towards its required POC load reductions from existing BMPs.

MEANS & METHODS STRATEGY, SCHEDULE, & ESTIMATED COSTS

In order to meet the 5% POC load reduction requirements set forth in Table 4, the City is utilizing multiple crediting strategies. To address the bulk of the load reduction requirements, Winchester will take credit for their street sweeping program as outlined in Appendix V.G of the TMDL Action Plan Guidance Document, and Appendix A.1 of this Action Plan. Furthermore, the City will also claim credit for homes that have met the conditions outlined in the email from DEQ titled "Chesapeake Bay TMDL Reductions: Septic Connection to Sanitary Sewer" sent on June 29th 2015. Table 6 outlines the POC Reduction crediting and how the methodology addresses the 5% required reductions.

Table 6. Means and Methods to address the total POC Reductions Required during the First Permit Cycle.

Means and Methods Crediting to Address the First Permit Cycle (5%) Reduction Requirements									
(*Based on Chesapeake Bay Program Watershed Model Phase 5.3.2)									
Subsource	**Pollutant**	**Total Existing Acres Served by MS4 (06/30/09)**	**First Permit Cycle Required Reduction in Loading Rate (lbs./acre)**	**5% Total Reduction Required First Permit Cycle (lbs.)**	**Means and Methods to Address 5% Reductions**	**Street Sweeping Crediting**	**Septic Connection To Sanitary Crediting**	**Total Reductions provided by Means and Methods**	**Percentage of 5% Reduction**
Regulated Urban Impervious	Nitrogen	2,359.21	0.08	188.74		**Nitrogen Removed (lbs./year)**	**Nitrogen Removed (lbs./year)**	**Nitrogen Removed (lbs./year)**	**Nitrogen**
Regulated Urban Pervious		2,848.97	0.03	85.47		**206.73**	**8.86**	**215.59**	**78.62%**
Total (N)				**274.21**					
Regulated Urban Impervious	Phosphorus	2,359.21	0.01	23.59		**Phosphorous Removed (lbs./year)**	**Phosphorous Removed (lbs./year)**	**Phosphorous Removed (lbs./year)**	**Phosphorous**
Regulated Urban Pervious		2,848.97	0.00	2.85		**32.22**	**N/A**	**32.22**	**121.86%**
Total (P)				**26.44**					
Regulated Urban Impervious	Total Suspended Solids	2,359.21	11.71	27,626.40		**TSS Removed (lbs./year)**	**TSS Removed (lbs./year)**	**TSS Removed (lbs./year)**	**TSS**
Regulated Urban Pervious		2,848.97	0.77	2,193.71		**35549.41**	**N/A**	**35549.41**	**119.21%**
Total (TSS)				**29,820.11**					

Table 6 illustrates that the City still needs to reduce their Nitrogen load by 58.62 lbs./year. Winchester will address this deficit by purchasing Class-A Nitrogen Nutrient Credits from the Opequon Water Reclamation Facility to achieve 100% compliance with the First Permit Cycle Requirements.

Appendix A of this document outlines all approaches used to achieve the 5% reduction requirements, as well as their estimated schedule and costs.

LIST OF FUTURE GRANDFATHERED PROJECTS

Winchester does not have any future grandfathered projects to include in this TMDL Action Plan.

PUBLIC COMMENT PROCESS

The City encourages the public's involvement and participation in the development and implementation of its MS4 Program. In keeping with this objective, the City posted a copy of its Draft Chesapeake Bay TMDL Action Plan on its website http:/www.winchesterva.gov/engineering/stormwater to solicit public comment on the draft plan. All comments received from the public were taken into consideration when developing the final version of the Action Plan that was submitted to DEQ with its MS4 Annual Report in October of 2015.

CONCLUSION

Winchester developed this first permit term Action Plan as required in the 2013-2018 Phase II MS4 Permit Number VAR040053 and in accordance with the DEQ Guidance Document dated May 18, 2015. This TMDL Action Plan concludes that the first permit term pollutant reduction requirements calculated will be met by implementing the proposed methodologies identified in the Means and Methods Strategy, Schedule, and Estimated Costs section, and Appendix A of this TMDL Action Plan. Winchester reserves the right to modify this TMDL Action Plan as needed to maintain compliance with its Phase II MS4 Permit.

APPENDIX A – MEANS & METHODS DOCUMENTATION

A.1 - STREET SWEEPING

For the purposes of this Action Plan, the City used the Qualifying Street Lanes Method to calculate the Nitrogen, Phosphorous, and TSS Removal achieved through their ongoing Street Sweeping Program. Winchester performs street sweeping bi-weekly and utilizes a Regenerative/Vacuum based technology. The City spends an estimated $200,000 annually (personnel, maintenance, equipment) on their street sweeping program. The City chose to base their calculations off of their lane miles maintained, rather than the 5461 lane miles swept in order to use a more conservative approach. The lane miles were converted to lane feet to ensure a proper unit conversion. The TSS pre-sweeping annual nutrient load was calculated using the Simple Method shown in Equation A.1.

$$L = 0.226*R*C*A \quad \text{(A.1)}$$

Where: L = Annual load (lbs.)
R = Annual Runoff (43")
C = Pollutant Concentration (54.5 mg/l)
A = Area (1 Acre Impervious)
0.226 = Unit Conversion factor

The Street Sweeping crediting per the Guidance Document Appendix V.G titled "Street Sweeping", as well as the calculation methodology is shown in Table A1 below.

Table A1. Street Sweeping Crediting Process

Street Sweeping - Reference Appendix V.G of the TMDL Action Plan Guidance Document			
Qualifying Street Lanes Method Calculation Methodology		Lane Miles Maintained 221.5	Lane Feet Maintained 1169520
Convert to impervious acres base on lane width		Lane Width (ft)	10
Impervious Acres at a 10 ft lane width		268.48	
Pre-Sweeping Annual Nutrient Load for TP (lbs./year)		2.00	
Pre-Sweeping Annual Nutrient Load for TN (lbs./year)		15.40	
Pre-Sweeping Annual Nutrient Load for TSS (lbs./year)[1]		529.63	
Winchesters Pre-Sweeping P Load (lbs.)		536.97	
Winchesters Pre-Sweeping N Load (lbs.)		4134.67	
Winchesters Pre-Sweeping TSS Load (lbs.)		142197.63	
Street Sweeping Technologies and Corresponding Reductions			
Technology	TN (lbs./year)	TP (lbs./year)	TSS (lbs./year)
Mechanical	0.04	0.04	0.1
Regenerative/Vacuum	0.05	0.06	0.25
Street Sweeping Reductions Provided			
POC	Pollutant Removal Credits to be applied to be applied to reductions (lbs./year)		
TP (lbs./year)	32.22		
TN (lbs./year)	206.73		
TSS (lbs./year)	35549.41		
[1]TSS Pre-sweeping annual nutrient load calculated using the Simple Method (Schuler 1987)			

A.2 - SEPTIC CONNECTION TO SANITARY SEWER

The City is claiming credit for 1 home that has met the conditions outlined in the email from DEQ titled "Chesapeake Bay TMDL Reductions: Septic Connection to Sanitary Sewer" sent on June 29th 2015. Correspondence with DEQ stated that requirements for this crediting process are as follows: (1) The connections have to be within the MS-4 Service Area and, (2) The disconnections and corresponding connection to the sanitary sewer had to occur post 2006. Table A2 shows the home that has connected to the Sanitary Sewer, followed by Table A3 which shows the calculation methodology.

Table A2. Sanitary Connections post 2006

Septic Connection to Sanitary Sewer Homes	
Home	**Address**
#1	2316 Middle Road, Winchester VA 22601

Table A3. Septic Connection to Sanitary Sewer Crediting Process

Chesapeake Bay TMDL Reductions: Septic Connection to Sanitary Sewer			
Septic Tank TN at Edge of Stream		**3.6**	**lbs. TN/year/person**
Winchester Census Data		**2.46**	**Average number of people per household for 2009-2013**
TN Credit	**8.856**	**lbs. TN Per Year per household**	
Households with Septic Connection		**1**	**homes**
Total TN Reduction Credit Provided		**8.856**	**lbs. TN/year**

A.3 - NUTRIENT TRADING

The City will purchase the remaining credits needed for compliance with the First Permit Cycle through the Virginia Nutrient Credit Exchange Association. Winchester will purchase 59 Class-A Nitrogen Credits, no later than June 30th, 2018, from the Opequon Water Reclamation Facility located at 3100 Berryville Pike, Winchester VA 22603. At the time of this Action Plan (2015), the Class-A Nitrogen Credit Purchase Price is $3.05 a share, for an overall cost of $179.95. The Credit Price schedule for subsequent years is shown in Figure A.3 taken from the Virginia Nutrient Credit Exchange Association 2015 Exchange Compliance Plan Annual Update.

ATTACHMENT B

CREDIT PRICE SCHEDULE

Compliance Year	Reconciliation Year	Class A Credit Purchase Price ($/Credit)		Price Status (Firm or Estimate)
		Nitrogen	*Phosphorus*	
2011	2012	$2.00	$4.00	Firm
2012	2013	$2.00	$4.00	Firm
2013	2014	$2.15	$4.30	Firm
2014	2015	$2.65	$4.60	Firm
2015	2016	$3.05	$4.93	Firm
2016	2017	$3.50	$5.27	Firm
2017	2018	$3.75	$5.65	Firm
2018	2019	$3.78	$5.70	Firm
2019	2020	$3.82	$5.76	Firm

EXCHANGE COMPLIANCE PLAN ANNUAL UPDATE, FEBRUARY 1, 2015 B-17

Figure A.3 Class-A Nutrient Credit Price Schedule

Attachment 3. Pollution Prevention/Good Housekeeping for Municipal Operations - Standard Operating Procedures 2013-2018

Phase II MS4 General Permit
Permit No. VAR040053

Pollution Prevention / Good Housekeeping
For Municipal Operations

Standard Operating Procedures

2013-2018

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Section 1 Purpose and Scope

Per the requirements of the General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 Permit), the City of Winchester shall develop and implement daily good housekeeping procedures, in accordance with Sec. II(B)(6)(a) and Table 1, for all applicable municipal operations within 24 months of permit coverage.

The scope of work includes daily good housekeeping procedures development in accordance with the MS4 Permit requirements for inclusion in the City's MS4 Program Plan.

Section 2 Background

Municipal operations such as vehicle/equipment storage and maintenance, grounds maintenance, and parking lot maintenance can be a source of stormwater pollution if good housekeeping practices are not implemented during active municipal operations. The Pollution Prevention/Good Housekeeping components of the MS4 Permit require municipalities to re-evaluate municipal operations and storm infrastructure management to develop written procedures that minimize or prevent pollutant discharge from their daily operations. The daily good housekeeping procedures assists the City of Winchester in meeting the MS4 Permit requirements and encourages City employees to use best management practices (BMPs) in their daily municipal operations.

Per Sec. II(B)(6)(a) of the MS4 Permit, the written procedures are designed to minimize or prevent pollutant discharge from (i)daily operations such as road, street, parking lot maintenance; (ii) equipment maintenance; and (iii) application, storage, transport, and disposal of pesticides, herbicides, and fertilizers. These written procedures, at a minimum, are designed to:

1. Prevent illicit discharges;
2. Ensure the proper disposal of waste materials, including landscape wastes;
3. Prevent the discharge of municipal vehicle wash water into the MS4 without authorization under a separate VPDES permit;
4. Prevent the discharge of wastewater into the MS4 without authorization under a separate VPDES permit;
5. Require implementation of best management practices when discharging water pumped from utility construction and maintenance activities;
6. Minimize the pollutants in stormwater runoff from bulk storage areas (e.g. - salt storage, topsoil stockpiles) through the use of best management practices;
7. Prevent pollutant discharge into the MS4 from leaking municipal automobiles and equipment;
8. Ensure that the application of materials, including fertilizers and pesticides, is conducted in accordance with the manufacturer's recommendations.

To address the MS4 Permit requirements, six general operations within the City were identified and good housekeeping procedures were written for activities under each operation. These operations include:

1. Municipal Facilities/Operations
2. Parking Lot Maintenance
3. Vehicle/Equipment Maintenance
4. Grounds Maintenance
5. Municipal Operations
6. Utility Maintenance

The six City operations and associated procedures are described in Section 3 through Section 8. Unless otherwise stated, the City's Engineering Division, led by the City Engineer, is responsible for ensuring good housekeeping practices are implemented for all municipal facilities and operations. At the beginning of each section pertinent City departments responsible for implementing the good housekeeping procedures are identified.

Each standard operating procedure by itself is not intended to meet every requirement per Sec. II(B)(6)(a)(1-8); but the document as a whole meets all requirements listed.

Section 3 Standard Operating Procedures - Municipal Facilities

Municipal facilities have the potential to produce pollutants from their day to day operations. It is imperative to implement good housekeeping procedures on all municipal facilities.

Included in this section are general good housekeeping practices and general spill/leak cleanup procedures that are to be implemented on all municipal facilities by each facility supervisor. Facility inspections are to be completed and records maintained as specified in the following procedures for inclusion in the facility's Stormwater Pollution Prevention Plan (SWPPP) binder.

The City's Engineering Division will work in close coordination with each facility supervisor to ensure good housekeeping procedures are being applied and to ensure the City of Winchester remains compliant with the MS4 Permit requirements.

Standard Operating Procedure for: **GENERAL GOOD HOUSEKEEPING PRACTICES**	**SOP 3.1**

Purpose: To protect stormwater from pollutants by implementing general good housekeeping practices.

Practices:

- All operations and activities at the City yard facility are to be in accordance with the Stormwater Pollution Prevention Plan (SWPPP) developed under the VPDES General Permit for Discharges of Stormwater from Industrial Activities registration number VAR050822.
- Do not dispose of leaves, grass clippings, tree trimmings, trash, oil, fuel, sediment, or any other pollutant into a storm drain or water body.
- Keep open, exposed areas clean and protected from precipitation.
- Keep equipment, stockpiles, chemicals, paints, etc. covered.
- Post signs and labels in problem areas and areas containing hazardous materials.
- Consider additional control measures in conjunction with coverings; including curbing, grading, or elevating materials to divert stormwater run-on and to contain stormwater run-off.
- Identify and label any storm drain inlets at or near the facility to notify employees and contractors not to dispose of any materials or wastes.
- Do not wash down or hose down any outdoor work areas or trash/waste container storage areas except where wash water will only enter the sanitary sewer following treatment.
- Recycle wastes, used oil, solvents, grease rags, wash water, and other spent liquids. Store materials to be recycled under cover with secondary containment.
- Install secondary containment devices where appropriate. Secondary controls include curbing, drip pans, basins, sumps, oil/water separators, catch basin inserts, oil pads/skimmers, and impervious work areas.
- Use oil/water separators, or other commercially-available devices to minimize oil and grease discharge to stormwater runoff.
- Stabilize or cover exposed denuded areas to minimize erosion and sedimentation during rain events. This can be done by applying mulch or permanent vegetation that will hold the soils in place.
- Install erosion and sediment controls in accordance with the *Virginia Erosion and Sediment Control Handbook (VESCH)* as needed during construction and utility maintenance activities.
- Do not use chemicals when cleaning outside of buildings. Filter building wash water before it enters the storm drain.
- If possible, dispose of building wash water at approved location connected to sanitary sewer.

Inspections/Maintenance/ Spill Response /Reporting:

- Schedule routine inspections focusing on areas that have a greater potential to spill, leak, discharge into stormwater runoff.
- Monitor floor drains and storm inlets and/or catch basins, and inspect, remove/replace as appropriate.
- Inspect oil/water separators and floor drain systems periodically to determine maintenance needs.
- Inspect equipment and storage areas at regularly scheduled days/times for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose: To protect stormwater from spilled pollutants by implementing proper spill cleanup procedures and preventative measures.

Practices:

- Do not use water to clean up spills/leaks.
- Do not wash spills/leaks into storm drain, ditch, creek, stream, pond, wetland or any other water body.
- Do not leave spill/leak without cleaning it up.
- Stop the source of the spill/leak immediately, if safe to do so.
- Contain any spilled/leaked liquids, if safe to do so.
- Clean up spill/leak in accordance with spill kit directions.
- Inspect City vehicles/equipment before leaving City property yard.
- Sweep up granules and dispose of properly.
- Install control measures on nearby storm drains and water bodies if spill could potentially reach the stormwater systems.
- Position mats to contain leaks from vehicles and equipment until they can be repaired.
- Use secondary containment under or around petroleum and chemical storage containers.
- Notify supervisor of any spills greater than five (5) gallons or any spill that reaches the storm drain. If a supervisor is unavailable, call the stormwater hotline (540)-542-1346 or the Police Department's non-emergency line (540)-662-4131. Immediately call 911 if a spill presents a threat to health or safety, or is considered an emergency.

Inspections/Maintenance/ Spill Response /Reporting:

- Develop and maintain a site specific spill prevention/spill response plan.
- Maintain a spill kit in areas where petroleum or hazardous materials are stored.
- Maintain spill kits on all City owned equipment/vehicles that are used for municipal operations.
- Notify supervisor of any spills greater than five (5) gallons or any spill that reaches the storm drain. If a supervisor is unavailable, call the stormwater hotline (540)-542-1346 or the Police Department's non-emergency line (540)-662-4131. Immediately call 911 if a spill presents a threat to health or safety, or is considered an emergency.

Training:

- Train applicable employees in site specific spill response procedures and equipment.
- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 4 Standard Operating Procedures – Road, Street, and Parking Lot Maintenance

Road, street, and parking lot maintenance activities have the potential to produce pollutants that may discharge into stormwater runoff if good housekeeping procedures are not implemented in and around municipal parking lots. Potential sources of these pollutants may include parked cars, dumpsters, trash cans, and material stockpiles.

Included in this section are good housekeeping practices for municipal road, street, and parking lot maintenance operations. The procedures are to be implemented on all City owned/operated roads, streets, and parking lots and all construction activities associated with these facilities.

The City's Department of Parks and Recreation (DPR) is responsible for ensuring that all applicable DPR employees comply with the following procedures for parking lots associated with City parks and recreation facilities. Likewise, the City's Department of Public Works (DPW) is responsible for ensuring that the Streets Division staff comply with these procedures for maintenance activities associated with roads and streets. If applicable, all inspections for municipally owned parks and recreation parking lots are to be completed and records maintained for inclusion in the facility's SWPPP binder.

The City's Engineering Division will work in close coordination with the DPR and DPW to ensure good housekeeping procedures are being applied to all municipally owned/operated roads, streets, and parking lots and during construction/maintenance operations to ensure that the City of Winchester remains compliant with the MS4 Permit requirements.

Purpose: To protect stormwater from trash and debris by properly cleaning and maintaining roads, streets, and parking lots through general practices.

Practice:

- Sweep all City maintained roads and streets in accordance with the City's established street sweeping schedule.
- Dispose of street sweepings properly and never store street sweepings in areas where storm water could transport fines to the storm drain system or a waterbody.
- Locate trash cans and dumpsters in areas that are readily accessible to users.
- Do not hose down parking lots or sidewalks within parking lots.
- Do not sweep trash, sediment, or any other pollutants to or down a storm drain or water body.
- Do not place trash cans or dumpsters near a storm drain or water body.
- Do not place hazardous waste in a dumpster or trash can.
- Do not wash out dumpsters. Return to owner for cleaning at owner's facility. If municipally owned containers must be washed, do so in an approved location where wastewater is either recycled or treated before discharging to the sanitary sewer with approval.
- Locate trash cans or dumpsters on a flat concrete surface that does not drain towards a storm drain or water body.
- Ensure all trash cans and dumpsters within parking lots remain covered and have no leaks.
- Request/use dumpsters with properly plugged drain holes whenever possible.
- Pick up trash and debris and dispose of in covered trash can or dumpster.
- Empty trash cans and dumpsters scheduled days/times. Do not overfill trash cans or dumpsters.
- Provide properly-labeled recycling bins in an area readily accessible to users to reduce the amount of garbage disposed.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect parking lots for trash and debris at regularly scheduled days/times.
- Inspect trash cans and dumpsters at regularly scheduled days/times for leaks, corrosion, broken/missing lids or leaking drain valves.
- Maintain street sweeping equipment for maximum effectiveness.
- Immediately repair or replace any damaged trash cans or dumpsters.
- Regularly inspect parking lots for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose: To protect stormwater from salt/deicers and sand by properly storing and applying the materials.

Practice:

- Do not store salt, sand, deicer, or snow near storm drain or water body.
- Do not dispose of salt, sand, deicer, or snow in a storm drain or water body.
- Do not use nitrogen or phosphorus as deicing agents.
- Apply appropriate amount of salt, sand, or deicer as needed to be effective.
- When loading salt, sand, or deicer, minimize salt spillage by not exceeding the capacity of equipment (i.e. front end loader, truck bed).
- When unloading salt, sand and deicer materials move excess materials that may have fallen outside of desired storage area to the desired storage area.
- Operate equipment at low speed for effective spreading.
- Control spread patterns to concentrate material where most effective.
- Consider use of deicing alternatives such as calcium magnesium acetate, potassium acetate, sand, etc. in sensitive areas.
- If using sand, use coarse, clean (washed) sand, which is free of fine particles and dust and easier to clean in the spring.
- Locate salt, sand, or deicer stockpiles on flat, covered, impervious sites that are protected from runoff and divert run-on around stockpile. Store salt, sand, or deicer in accordance with SOP 5.1.
- Provide diversion where runoff leaves salt storage area to direct runoff to holding tank or stormwater treatment device.
- Where possible, remove snow manually without use of salt/deicer.

Inspections/Maintenance/ Spill Response /Reporting:

- Regularly inspect salt/deicer storage area to ensure the area remains dry and the materials remain within the designated storage area.
- During the winter months, regularly inspect spreader equipment and calibrate to manufacturer's specifications to maximize the effectiveness of the equipment.
- Maintain accurate logs of amount of salt/deicing material applied to each parking lot.
- Keep up-to-date records of inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose: To protect stormwater from trash, debris, sediments, oil and grease, solvents, detergents, fertilizers, and other pollutants by routinely inspecting, cleaning, and maintaining storm drain systems.

Practice:

- Do not allow defective storm pipes or structures to go unrepaired.
- Do not discharge contaminated stormwater, storm drain flush water, or surface debris into storm drain or water body.
- Regularly clean storm drain systems, preferably in late winter and early spring. Give priority to areas with relatively flat grades as they rarely achieve high enough flows to flush out stormwater.
- When cleaning storm drains by flushing, place hose into the storm drain system at the catch basin and discharge the hose upstream.
- Use sandbags in the storm drain systems, as needed to divert and minimize wash water discharging into the system.
- If flushing out pipes, use vacuum truck to vacuum up any flush water and debris downstream from flush inlet.
- Discharge flush water and debris properly. Debris should be collected and taken to a permitted disposal site and flush water should be discharged to the sanitary sewer with approval.
- Regularly clean storm drain structures by removing trash, sediment, leaves, grass clippings, etc. from the inlet throats, grate tops, and structure sumps. Properly dispose of debris. Do not allow debris to accumulate.
- Use appropriate erosion and sediment control practices when performing repairs. Refer to SOP 4.4 for erosion and sediment control practices.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect catch basins for structural integrity, cracks, and leaks or other condition issues. Repair any structures found to be leaking or damaged as soon as possible.
- Create a checklist for catch basins to help classify which catch basins require maintenance and generally how often. Prioritize catch basins that need repair.
- Report any suspected illicit connections or dumping to supervisor.
- Keep up-to-date records of inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- Train applicable employees on proper storm drain system maintenance and cleaning practices.
- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Purpose: To protect stormwater from pollutants during construction or maintenance operations by implementing proper erosion and sediment control practices.

Practice:

- Do not stockpile materials near storm drains or water bodies.
- Do not remove erosion control measures before construction or maintenance operations are complete and stabilized.
- Do not dispose of sediment or other captured pollutants in a storm drain or a water body.
- Prior to moving control measures, inspect site and ensure all accumulated debris or other pollutants are cleaned up and removed.
- Minimize the land disturbance and stabilize the disturbed area once construction or maintenance is complete.
- Divert clean water around construction or maintenance site.
- Install erosion control devices in accordance with the VESCH.
    - Install inlet protection on all storm drain inlets near the construction or maintenance operations, per Chapter 3.07 of the VESCH; or approved equivalent.
    - Contain material stockpiles (salt, topsoil, gravel) to prevent pollutant runoff. Stockpiles should be temporary and removed once construction or maintenance is complete and stabilized.
    - If needed, install sediment traps and basins per Chapters 3.13 and 3.14 of the VESCH to protect downstream channels and water bodies from sediment runoff.
    - Cover bare soil with mulch or other approved cover to prevent sediment runoff.
    - Use an appropriately sized sediment dewatering device when dewatering construction or maintenance area. Dispose of captured sediment at a properly permitted location prior to removing storm drain protection.
- Regularly inspect and maintain erosion and sediment control devices.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect, maintain, and repair control measures in accordance with the VESCH and the Virginia Erosion and Sediment Control Regulations and the Virginia Erosion and Sediment Control Law.
- Keep up-to-date records of inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 5 Standard Operating Procedures – Vehicle / Equipment Maintenance

Vehicle and equipment maintenance operations include fueling, washing, repairing, maintaining, and storage for large and small vehicles (fire trucks, emergency vehicles, and utility vehicles) and large and small equipment (lawn mowers, weed-eaters, chemical spreaders). Both operations have the potential to produce pollutant discharge if good housekeeping procedures are not implemented.

Included in this section are good housekeeping practices for vehicle and equipment maintenance operations. The procedures are to be implemented on all City owned/operated facilities where vehicles and equipment are stored and maintained.

The DPR is responsible for ensuring all applicable DPR employees comply with the following procedures. Inspections are to be completed and records maintained as specified in the following procedures for inclusion in the facility's SWPPP binder. If applicable, all inspections for municipally owned parks and recreation parking lots are to be completed and records maintained for inclusion in the facility's SWPPP binder.

The City's Engineering Division will work in close coordination with the DPR to ensure good housekeeping procedures are being implemented where vehicles and equipment are being stored and maintained to ensure that the City remains compliant with the MS4 Permit requirements.

Purpose: To protect stormwater from solvents, antifreeze, battery acid, motor oil, fuel, grease, brake fluid, metals, and sediment by properly storing and maintaining the vehicles and equipment.

Practice:

- Do not park vehicles or place equipment over, on, or near a storm drain or water body.
- Do not store vehicles or equipment near storm drains or water bodies.
- Do not dispose of fluids in storm drains or water bodies.
- Whenever possible, store vehicles and equipment inside to minimize the potential for pollutant discharge in stormwater runoff. Where indoor storage is not possible, store on paved areas and under a covered facility.
- If storing vehicles and equipment inside, ensure floor drains have been properly connected and do not outfall into storm drain system. If the drain does outfall to a storm drain system, floor drain should be sealed.
- Store drums, tanks, and containers in low-traffic areas and on pallets.
- Store cracked batteries in leak-proof secondary containers.
- Store drip pans and draining boards in designated and marked holding tubs for reuse.
- Store limited amounts of solvents, antifreeze, motor oil, fuel, grease, etc. to prevent surplus or expiration of fluids. Store in a dry controlled area.
- Store salt, sand, or deicer in limited amounts under cover. If stockpiled outdoors, cover with tarp to minimize stormwater runoff and install fabric barrier around to capture polluted runoff.
- Vehicle maintenance activities must be performed inside the fleet maintenance garages.
- Use drip pans and other containment devices to prevent spills when performing maintenance.
- Move leaking vehicles and equipment indoors or under cover as soon as possible and use a drip pan to contain any leaks as needed. If possible, drain the leaking fluid and tag the vehicle/equipment to alert others of the leak.
- Clean equipment prior to placing in storage. Equipment shall be washed in a controlled location in accordance with SOP 5.2.
- Clean trucks, equipment and tools in designated equipment wash facilities where wash water will not drain to a storm drain, ditch, creek, stream, pond, wetland or any other water body.
- Use non-hazardous cleaners when possible.
- Use steam cleaning, pressure washing, or aqueous washers instead of solvents.
- Drain all liquid filters before disposal or recycling and dispose of properly.
- Pour drip pan fluids in appropriate waste/recycle containers as the first step in clean up after repair work is completed.
- Dispose of or recycle all fluids properly.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect parking areas for stains, leaks, and spills at regularly scheduled days/times.
- Inspect equipment, drums, tanks, and containers for leaks, condition, proper storage and proper labeling.
- Maintain vehicles and equipment on a regular basis to prevent leaks.
- Sweep maintenance areas at regularly scheduled days/times to remove dirt/debris.
- Pickup and dispose of waste materials and scrap equipment at regularly scheduled days/times.
- If leaks or spills occur, clean up in accordance with SOP 3.2.

- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose: To protect stormwater from detergents, oils, grease, and heavy metals by properly washing vehicles and equipment.

Practice:

- All vehicles must be washed in the City Yards wash bay.
- Clean trucks, equipment and tools in designated equipment wash facilities where wash water will not drain to a storm drain, ditch, creek, stream, pond, wetland or any other water body.
- Do not release vehicle/equipment wash water into a storm drain or water body without prior authorization under a separate VPDES permit.
- If no wash facility is available, clean equipment over a layer of absorbent material spread on a paved surface and/or heavy plastic sheeting and install curbs, berms, or dikes around outdoor wash area to control and contain wastewater. Use wet/dry vacuum or vacuum truck to collect wash water and discharge to the sanitary sewer.
- Use drain guards (filter inserts) or approved equivalent on nearby storm drain inlets to catch sediments and other pollutants that might enter the storm drains as a result of vehicle washing.
- Avoid detergents whenever possible. If detergents are necessary, a phosphate-free, non-toxic, biodegradable soap is recommended.
- Minimize water use when washing and rinsing.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect and maintain washing equipment such as hoses, wands, and nozzles at regularly scheduled days/times to ensure said devices are delivering proper rate of water and shutoff automatically when not in use.
- Where wash racks are used, inspect for leaks, overspray, or other signs of ineffective containment. Immediately correct any observed defects. Clean periodically to remove particulate matter and other pollutants.
- Inspect plumbing, recycling, and pretreatment systems at regularly scheduled days/times to ensure they are functioning properly.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose: To protect stormwater from gasoline and diesel fuel by properly maintaining fueling areas and by properly fueling vehicles and equipment.

Practice:

- Do not fuel vehicle or equipment near storm drain or water body.
- Do not hose down or bury fuel spill.
- Do not "top off" fuel tanks. This will minimize the possibility of spills.
- Use a permitted off-site facility such as a fuel/gas station to refuel vehicles and equipment, whenever possible.
- If refueling onsite, use a designated fueling area. Designated fueling area should contain a spill kit, spill response practices, and a covered garbage can for proper cleanup and disposal of spilled fuel.
- Protect fuel storage tanks whenever possible to prevent polluting stormwater runoff.
- Cover nearby storm drains during loading/transfer of fuel storage tanks.
- Use overflow protection devices on tanks and enclose fuel tanks with secondary containment.
- When fueling small equipment from portable containers, fuel in a designated area away from storm drains and water bodies. Use a funnel to minimize spills.
- Fuel carefully to minimize drips to the ground.
- Use absorbent material under small equipment during fueling to collect any drips, overflow, or leaks.
- For new or remodeled facilities, the fuel-dispensing area should be covered and paved with an impervious surface. The surface should be sloped to prevent ponding and contain a grade break that allows for polluted runoff to drain inward to a contained area and the remaining runoff to be diverted away from the fueling, storage, and disposal area.

Inspections/Maintenance/ Spill Response /Reporting:

- Inspect fueling equipment at regularly scheduled days/times for corrosion and structural failure, cracks in foundations, and physical damage to container systems.
- Maintain clean fuel dispensing areas using dry cleanup methods.
- Maintain fuel storage tanks in accordance with local, state, and federal laws.
- Regular maintenance is required if oil/water separators are used.
- Inspect fuel storage area and tanks at regularly scheduled days/times for leaks, overfills due to operator error and spills during pumping from truck to storage facility or vice versa. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- Train applicable employees and subcontractors on proper fueling methods and spill cleanup materials.
- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 6 Standard Operating Procedures - Grounds Maintenance

Grounds maintenance activities such as mowing, tree trimming, irrigating, fertilizing, spraying pesticides, etc. have the potential to produce pollutant discharge if good housekeeping procedures are not implemented during grounds maintenance operations.

Included in this section are good housekeeping practices for grounds maintenance operations. The procedures are to be implemented on all City owned/operated facilities where vegetated areas are maintained and fertilizers, pesticides, and herbicides are applied, handled, and stored.

The DPR is responsible for ensuring all applicable DPR employees comply with the following procedures. If applicable, all inspections for municipally owned parks and recreation facilities are to be completed and records maintained for inclusion in the facility's SWPPP binder.

The City's Engineering Division will work in close coordination with the DPR to ensure good housekeeping procedures are being implemented during grounds maintenance operations to ensure that the City remains compliant with the MS4 Permit requirements.

Purpose: To protect stormwater from untreated chemicals by properly storing and disposing of pesticides, herbicides, and fertilizers.

Practice:

- Do not store pesticides, herbicides, and fertilizers near storm drains or water bodies.
- Do not dispose of pesticides, herbicides, and fertilizers near or in storm drains or water bodies.
- Store pesticides, herbicides, and fertilizers in accordance with manufacturer's specifications.
- Where possible, store pesticides, herbicides, and fertilizers in an enclosed, controlled area. (i.e. locked storage shed or cabinet)
- Use proper containers for storing chemicals and clearly label.
- Use and clearly label secondary containers.
- Store Material Safety Data Sheets (MSDS) near chemical storage areas.
- Order only the amount needed to prevent surplus or expired chemicals.
- Order chemicals just prior to usage to reduce storage time.
- Use entire order of chemicals to minimize disposal.
- If disposal is necessary dispose of fertilizers and pesticides in accordance with manufacturer's specifications and applicable regulations.
- Follow all applicable federal and state regulations for storing pesticides, herbicides, and fertilizers.
- Maintain dog park signs, enforce dog park rules as stated on signage and clean up after dogs as appropriate.
- Maintain "Do Not Feed Geese" signs and clean up after geese as appropriate.

Inspections/Maintenance/ Spill Response /Reporting:

- Annually check expiration dates and dispose of expired products in accordance with the manufacturer's specifications.
- Keep an up-to-date inventory of all pesticides, herbicides and fertilizers stored. The list should include the name of the product, the manufacturer, the number of bags/containers and expiration date.
- Compile a binder of all Material Safety Data Sheets (MSDS) for pesticide, herbicides and fertilizers and have a general location to store it.
- Keep an up-to-date list of all Certified Pesticide Applicators.
- Keep an up-to-date list of pesticides, herbicides and fertilizers being applied. The list should include the name of the product, employee who applied the product, date of application, amount applied and location.
- Inspect storage areas at regularly scheduled days/times for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- All applicable employees who handle or apply pesticides and herbicides shall be certified in accordance with the Virginia Pesticide Control Act through Virginia Department of Agriculture and Consumer Services (VDACS).
- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose: To protect stormwater from untreated chemicals by properly handling and applying pesticides, herbicides, and fertilizers.

Practice:

- Do not apply pesticides, herbicides, and fertilizers before a heavy rainfall.
- Do not dispose of pesticides, herbicides, and fertilizers in storm drains or water bodies.
- City employees who use or supervise the use of any pesticide on any area in the performance of their official duties must be certified as either commercial applicators not for hire or a registered technician.
- City employees who use or supervise the use of any fertilizer on any area in the performance of their official duties must be a certified fertilizer applicator.
- Use proper Personal Protection Equipment (PPE) when handling and applying pesticides, herbicides, and fertilizers.
- All employees handling, mixing, and applying pesticides, herbicides, and fertilizers should be knowledgeable of the corresponding MSDS for pesticides, herbicides, and fertilizers.
- Mix only enough chemical for immediate use.
- Follow manufacturer's recommendations for handling, mixing, and applying pesticides, herbicides, and fertilizers.
- Follow all federal and state regulations when handling, mixing, and applying pesticides, herbicides, and fertilizers.
- Mix pesticides, herbicides, and fertilizers in designated areas and away from storm drains or water bodies.
- Employees applying pesticides, herbicides, and fertilizers should read the MSDS for each product they use.
- Calibrate application equipment to ensure proper amount of product is applied.
- Use caution when broadcasting product near a waterway or storm drain structure.
- If fertilizer is broadcast or spilled on a sidewalk, street or driveway, sweep up the excess and dispose of in accordance with manufacturer's specifications.
- Promptly cleanup any spills or leakage. Use dry absorbent for liquids and sweep up solid product. Dispose of waste in accordance with manufacturer's specifications. Do not rinse with water.
- Use fertilizers with no phosphorous content.
- Pesticide application equipment should have an emergency shut-off switch.
- Use the least toxic product or method available to do the job.
- Use biodegradable products when available.
- Spot treat problem areas with pesticides rather than treating larger areas.
- Avoid broadcast spraying of pesticides or herbicides.
- Use the granular form of fertilizers, herbicides, and pesticides to minimize application losses. If using liquids, be aware of wind direction to avoid wind drift of chemicals.
- Wash equipment in accordance with SOP 5.2.
- Apply products when ground is thawed; if applicable, fertilizer in accordance with any pertinent Nutrient Management Plan (NMP), apply pesticides and herbicides only as needed.

Inspections/Maintenance/ Spill Response /Reporting:

- Annually check expiration dates and dispose of expired products in accordance with the manufacturer's specifications.

- Keep an up-to-date inventory of all pesticides, herbicides, and fertilizers stored. The list should include the name of the product, the manufacturer, the number of bags/containers and expiration date.
- Compile a binder of all MSDS for pesticides, herbicides, and fertilizers and have a general location to store it.
- Keep an up-to-date list of all Certified Pesticide Applicators.
- Keep an up-to-date list of pesticides, herbicides, and fertilizers being applied. The list should include the name of the product, employee who applied the product, date of application, amount applied and location.
- Regularly inspect storage areas for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- All applicable employees who handle or apply pesticides and herbicides shall be certified in accordance with the Virginia Pesticide Control Act through Virginia Department of Agriculture and Consumer Services (VDACS).
- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose: To protect stormwater from organic matter, sediments, nutrients, and other pollutants by using proper mowing and irrigation techniques and by properly disposing of landscape waste.

Practice:

- Do not dispose of leaves, clippings, or compost in storm drain or water body.
- Do not pile leaves, clippings, and compost piles near a storm drain or water body.
- Do not dump gas from lawn mowing equipment, waste, or contaminated water in storm drain or water body.
- Do not refuel or change mower oil near storm drains.
- Mow only as low as needed for the area's intended use. Where possible, mow once or twice a year to allow for meadow growth.
- Use a bag to catch grass clippings and appropriately dispose of clippings.
- Water at appropriate times (no rain in forecast and cooler time of day) and do not overwater. Overwatering can result in excess runoff.
- If used for composting, use appropriate compost bin away from storm sewer or water body.
- If temporary stockpile is necessary, cover leaves, clippings, and compost piles with tarp or enclose with a barrier so that runoff does not enter storm drain system or water body.
- Do not pile tree trimmings. Dispose of properly at a yard waste facility, chip material and use as mulch, or burn in controlled area as regulated under City Ordinances.

Inspections/Maintenance/ Spill Response /Reporting:

- Store and maintain lawn care equipment in controlled location per SOP 5.1.
- Wash lawn care equipment in controlled location per SOP 5.2.
- Fill gas tanks in a controlled location per SOP 5.3.
- Regularly inspect lawn care equipment and storage areas for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose:

To protect stormwater from bacteria, organic matter, disinfectants, and suspended solids by properly placing and maintaining portable toilets.

Practices:

- Do not place toilets on top of storm drain inlets.
- Do not dispose of waste or pollutants in storm drains or water bodies.
- Portable toilets should be placed away from all storm drains and streets.
- Portable toilets should not be located adjacent to any stream or lake.
- Portable toilets shall be placed on a level ground surface that provides unobstructed access to users and servicing pump trucks.
- Portable toilets should, wherever possible, be located upon natural ground and not on or within 5 feet of a paved surface such as asphalt, concrete, or similar.
- If portable toilets must be placed on a paved surface exposed to rainwater or stormwater runoff, extra care must be taken during servicing to ensure any waste water spilled onto the paved surface is rinsed and adequately collected so as not to leave any residue. A wet shop vacuum or similar would provide for adequate collection.
- To prevent spills, portable toilets should not be moved more often than is absolutely necessary.
- Portable toilets should be anchored down to prevent from tipping over.
- Owner identification and contact information must be effectively displayed in a prominent location on the exterior of each unit for reporting purposes.
- Collected portable toilet waste must be disposed of at a properly permitted wastewater disposal facility by a capable servicing company. Users of portable toilets should make all reasonable efforts to ensure that the waste hauler is disposing of waste at a permitted location.
- Damaged toilets must be repaired and/or replaced immediately.

Inspections/Maintenance/ Spill Response /Reporting:

- Clean and remove waste from portable toilets each week. Additional cleaning may be necessary depending on the volume of use.
- Portable toilet rinsing (excluding the inside of portable toilet waste tank) may be completed on site when the following conditions are met:
    - Rinse water is controlled to prevent it from entering into a storm drain;
    - No more than one (1) gallon of rinse water is used per portable toilet (i.e. low volume high-pressure cleaners, or bucket and rag. No common household hoses.);
    - Rinsing is completed away from a street or storm drain;
    - Where the portable toilet must be located on a paved surface, any rinse water that comes in contact with the paved surface must be adequately collected;
    - Where the portable toilet is located on a non-paved surface, rinsing should be completed at least 5 feet away from a paved surface and rinsing wastewater is drained to the ground at a rate that allows it to immediately soak into the ground;
    - Rinse water generated during the cleaning of portable toilet waste tanks must not be discharged to the ground or to a storm drain and must be retained within the tank;
    - Portable toilet wastewater (human waste/sewage) must never be disposed of on-site.

- Inspect portable toilets daily to ensure proper functionality and to detect leaks or spills. In the event of a toilet unit being tipped over, immediately lift the unit back to its original position and inspect for spills, leakage, or damage to the unit. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections. Document all relevant inspection activities on the proper forms provided in the SWPPP.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 7 Standard Operating Procedures – Municipal Operations

Municipal operations such as paving, concrete replacement, refuse collection etc. have the potential to produce pollutant discharge if good housekeeping procedures are not implemented during municipal operations.

Included in this section are good housekeeping practices for municipal operations. The procedures are to be implemented during all City operations outside of City owned facilities.

Purpose: To protect stormwater from contaminates during municipal operations.

Practice:

- Concrete
    - Collect concrete slurry and dispose of waste and water or allow slurry to dry and sweep up direct waste
    - Require concrete trucks to wash out in a designated location where wash water will not drain to a storm drain, ditch, creek, stream, pond, wetland or any other water body.
- Paving and Pavement Repair
    - When milling, do not allow grindings to accumulate where they can wash into the storm drain, ditch, creek, stream, pond, wetland or any other water body.
    - Mix only the amount of patching material necessary to complete the repair.
    - Locate stockpiles of asphalt patching material on a paved surface. Cover stockpiles to prevent contact with rain.
    - Use less harmful products rather than diesel for asphalt patching and cleanup activities.
    - Promptly sweep up absorbent material and dispose of in accordance with established procedures.
- Street Sweeping
    - Keep street sweepers maintained and in operation.
    - Sweep as close to the curb as possible.
    - Maintain an effective speed.
    - Keep accurate logs of the lane miles swept and/or the amount of material collected.
- Leaf Collection
    - Remove leaves from gutters, ditches and around inlets.
    - Dispose of leaves at City Yards composting area.
- Refuse Collection
    - Do not pick up hazardous material
    - Empty accumulated liquids from trash collection activities at a properly permitted landfill.

Inspections/Maintenance/ Spill Response /Reporting:

- Store and maintain municipal equipment in controlled location per SOP 5.1.
- Wash municipal equipment in controlled location per SOP 5.2.
- Fill gas tanks in a controlled location per SOP 5.3.
- Regularly inspect equipment used for municipal operations for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 8 Standard Operating Procedures - Utility Maintenance

Utility maintenance activities such as fire hydrant testing, waterline repair, and sanitary sewer repair have the potential to produce pollutant discharge if good housekeeping procedures are not implemented during the described activities.

The City's Engineering Division will work in close coordination with the Department of Public Utilities (DPU) to ensure good housekeeping procedures are being followed during utility maintenance operations to ensure that the City remains compliant with the MS4 Permit requirements.

Purpose: To protect stormwater from contaminates during water line maintenance operations.

Practice:

- Install inlet controls and filtering devices for planned and previously approved discharges into storm drain.
- Prior to discharge, inspect discharge flow path and clear/cleanup any debris or pollutants found (i.e. remove trash, leaves, sediment, and wipe up liquids, including oil spills).
- Stop unplanned discharges as quickly as possible.
- Notify DPU of unplanned discharge and discharge extent.
- Identify unplanned discharge location and repair as needed.
- Inspect unplanned discharge flow path and repair damaged areas as needed.

Inspections/Maintenance/ Spill Response /Reporting:

- Store and maintain equipment in controlled location per SOP 5.1.
- Wash municipal equipment in controlled location per SOP 5.2.
- Fill gas tanks in a controlled location per SOP 5.3.
- Regularly inspect equipment used for utility operations for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Purpose: To protect stormwater from contaminates during sewer line maintenance operations.

Practice:

- Remove tree roots and other identified obstructions in sewer lines.
- Immediate clearing of blockage or repair is required where an overflow is currently occurring or for urgent problems that may cause an imminent overflow (e.g. pump station failures, sewer line ruptures, sewer line blockages).
- Clean sewer lines on a regular basis to remove grease, grit, and other debris that may lead to sewer backups.
- Review previous sewer maintenance records to help identify "hot spots" or areas with frequent maintenance problems and locations of potential system failure.
- Identify and track sanitary sewer discharges. Identify dry weather infiltration and inflow first. Wet weather overflow connections are very difficult to locate.
- Locate wet weather overflows and leaking sanitary sewers using conventional source identification techniques such as monitoring and field screening. Techniques used to identify other illicit connection sources can also be used for sewer system evaluation surveys.
- Implement community awareness programs for monitoring sanitary sewer wet weather overflows. A citizen's hotline for reporting observed overflow conditions should be established to supplement field screening efforts.
- When a spill, leak, and/or overflow occurs and when disinfecting a sewage contaminated area, take every effort to ensure that the sewage, disinfectant and/or sewage treated with the disinfectant is not discharged to the storm drain system or receiving waters.

Inspections/Maintenance/ Spill Response /Reporting:

- Store and maintain equipment in controlled location per SOP 5.1.
- Wash equipment in controlled location per SOP 5.2.
- Regularly inspect equipment used for utility operations for leaks and spills. If leaks or spills occur, clean up in accordance with SOP 3.2.
- During routine maintenance and inspection note the condition of sanitary sewer structures and identify areas that need repair or maintenance.
- Establish routine maintenance program. Cleaning should be conducted at an established minimum frequency and more frequently for problem areas such as restaurants that are identified
- Keep up-to-date records of site inspections including; by whom, when, and where inspections were done, what was found, and any actions that were taken as a result of the inspections.

Training:

- The City shall provide daily good housekeeping training for City owned/operated facilities for all applicable City employees in accordance with the City of Winchester Stormwater Training Plan.

Section 9 Resources

1. Environmental Protection Agency (EPA). (August 2014). *Pollution Prevent/Good Housekeeping for Municipal Operators National Menu of BMPs.* Retrieved from http://water.epa.gov/polwaste/npdes/swbmp/Pollution-Prevention-Good-Housekeeping-for-Municipal-Operatators.cfm

2. New Hampshire Department of Environmental Services (NHDES). (August 2014). *Guidelines and Standard Operating Practices: Illicit Discharge Detection and Elimination and Pollution Prevent/Good Housekeeping for Stormwater Phase II Communities in New Hampshire Manual.* Retrieved from http://des.nh.gov/organization/divisions/water/stormwater/documents/nh_idde_sop.pdf

3. City of Lansing, MI. (August 2014). *MS4 NPDES Application Attachment C-City of Lansing Standard Operating Procures.* Retrieved from http://www.lansingmi.gov/media/view/7_Attachment_C_SOPs/3013

4. California Stormwater Quality Association (CASQA). (August 2014). *Municipal BMP Handbook.* Retrieved from https://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook

5. Gwinnett County, GA Public Utilities. (August 2014). *Water Quality Guidelines; WQ-04 Portable Toilet Management.* Retrieved from http://www.gwinnettcounty.com/portal/gwinnett/Departments/PublicUtilities/StormwaterManagement/WaterQualityProtection/WaterQualityGuidelines

Attachment 4. IDDE Dry Weather Screening Report for Permit Year 2 – April 20, 2015

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

April 20, 2015

Ms. Kelly Henshaw, P.E.
City Engineer
City of Winchester
15 N. Cameron Street
Winchester, VA 22601

RE: IDDE Dry Weather Screening Report

Dear Ms. Henshaw:

In support of the City's Illicit Discharge Detection and Elimination (IDDE) program, Timmons Group has completed visual dry weather screening inspections for 50 regulated outfalls located throughout the City. The IDDE dry weather screening inspections were conducted in accordance with the City of Winchester Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedure (SOP) Manual, June 2014 Edition. The results of our inspection efforts are summarized in this report and digital copies of the Outfall Reconnaissance Inventory (ORI) Field Sheets and photographs of each outfall structure are provided in the attachments. In-field testing results for temperature, pH, total ammonia, and total chlorine are provided for the outfalls that were flowing.

Outfall Characterization

In accordance with the City of Winchester's IDDE SOP manual, Timmons Group characterized each outfall structure as unlikely, potential, suspect, or obvious. Outfalls characterized as "unlikely" were not flowing at the time of the visual inspection and no physical indicators of an illicit discharge were noted. Outfalls also characterized as "unlikely" were those outfalls that had standing water in the outfall structure at the time of the field visit but the upstream stormwater structure was absent of flow. See Table 2 – "Unlikely" Outfalls with Standing Water in Outfall Structure and Dry Upstream Stormwater Structures for a summary of the outfalls where this condition was present at the time of the field visit.

Outfalls characterized as "potential" had the presence of two or more physical indicators at the time of visual inspection. These outfalls could be flowing or not flowing. Outfalls characterized as "suspect" were flowing outfalls and the presence of one or more indicators with a severity of 3. Outfalls characterized as "obvious" were those outfalls where an illicit discharge was actively occurring during the visual inspection.

Results

The dry weather screening results are summarized in Table 1 – Outfall Characterization Results and Figure 1 – Outfall Characterization Results shown below. Timmons Group's staff visited 50 outfalls throughout the City and found 49 (98%) of these outfalls to be "unlikely", 1 (2%) of these

outfalls to be “potential”, 0 (0%) of these outfalls to be “suspect”, and 0 (0%) of these outfalls to be “obvious”.

Table 1 – IDDE Dry Weather Screening Outfall Characterization Results		
Characterization	**Total**	**% of Total Outfalls**
Unlikely	49	98
Potential	1	2
Suspect	0	0
Obvious	0	0
Total	**50**	**100%**

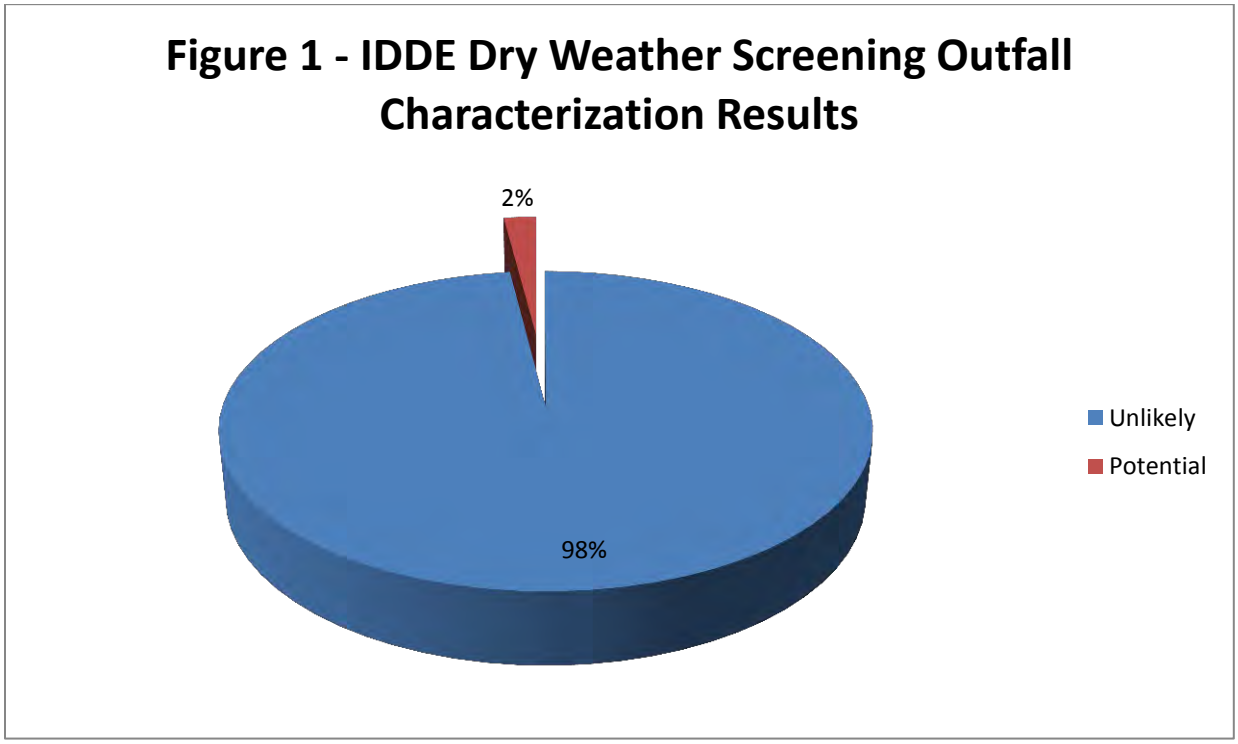
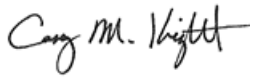


Table 2 - “Unlikely” Outfalls with Standing Water in Outfall Structure and Dry Upstream Stormwater Structures	
Stream	**Outfall ID**
Abrams Creek	OT25
	OT29
	OT30
	OT44
	OT45
	OT46
	OT47
Hogue Creek	OT1
	OT10

Should you have any questions regarding the IDDE Dry Weather Screening results in this report, please feel free to contact me at (703) 554-6710 or by email at casey.kight@timmons.com.

Sincerely,
Timmons Group



Casey M. Kight, L.A.
Project Manager

Attachments

Attachment 5. Electronic Database/Spreadsheet of City-Owned and Privately-Owned Stormwater Management Facilities

Project	Applicant	Public/ Private	Tax Map #	Property Owner	Property Contact	Contact Number	Property Owner Address	Property Address	Closest Street Address	ID Number	Date Received	Date Signed by Engineer	Date Signed by City Attorney	Date Recorded	Instrument #	BMP Type(Number)	HU Code	Waterbody	Acres Treated	Constructed?	Maintained?	Inspected?	Last Inspection Date	Maintenance Schedule	Comments
804 Amherst Street	Grey Wolf, Inc.	Private	171-1--18-	Scott Rosenfeld	Scott Rosenfeld	(540) 247-6218	1440 Amherst Street, Winchester, VA 22601	804 Amherst Street	804 Amherst Street	SP-09-448	4/28/2010	4/29/2010	5/27/2010			Pervious Pavers (0001), Grass Swale (0002)	PU17	Abrams Creek	.12	Yes	Yes	Yes	4/23/2010	Quarterly & As Needed	
812 Amherst Street	Grey Wolf, Inc.	Private	171-1-16	Scott Rosenfeld	Scott Rosenfeld	(540) 247-6218	1440 Amherst Street, Winchester, VA 22601	812 Amherst Street	812 Amherst Street	SP-10-435	8/31/2010	9/8/2010	10/11/2010	12/30/2010	100003067	Pervious Pavers (0115)	PU17	Abrams Creek	0.14	Yes	N/A	N/A	N/A	Quarterly & As Needed	
830 Amherst Street	Grey Wolf, Inc.	Private	171-1-15A	830 Amherst Rentals LLC			830 Amherst Street, Winchester, VA 22601	830 Amherst Street	830 Amherst Street	SP-10-435	8/31/2010	9/8/2010	10/11/2010	12/30/2010	100003067	Pervious Pavers (0123)	PU17	Abrams Creek	0.24	Yes	N/A	N/A	N/A	Quarterly & As Needed	
Aiken Strip Mall	N/A	Private	310-7--40-	Aikens Group	Walter Aikens	(540) 667-3752	P.O. Box 2468, Winchester, VA 22604	2820-2834 Valley Avenue	2820 Valley Avenue	SP-93-25	N/A					SWM Pond (0003)	PU16	Opequon Creek - Buffalo Lick Run	6.0	Yes	Yes	Yes	7/9/2010	As Needed	
All Points Warehouse	N/A	Private	351-1--5-A	All Points Properties LLC	Paul Berg	(540) 662-2270	1682 East Guide Drive, Suite 201, Rockville, MD 20850	3090 Shawnee Drive	3090 Shawnee Drive	SP-89-50A	N/A					SWM Pond (0004)	PU16	Opequon Creek - Hoge Run	8.8	Yes	Unknown	No	N/A	As Needed	
Allston Mews	N/A	Private	351-1--21-	Neil J. & Bobbie J. Keefe			3725 King Arthur Road, Annandale, VA 22003	500-552 Allston Circle, 500-520 Mews Ln.	522 Allston Circle	SP-94-57	N/A					SWM Pond (0005)(0006)	PU16	Opequon Creek - Buffalo Lick Run	1.5	Yes	Yes	Yes	7/16/2010	As Needed	
American Woodmark	N/A	Private	351-1--4-	American Woodmark	Mark Wolford	(540) 665-9203	P.O. Box 1980, Winchester, VA 22604	3102 Shawnee Dr.	3102 Shawnee Dr.	SP-01-25	9/20/2010	10/1/2010	10/3/2010	8/3/2011	110001847	SWM Pond (0007)	PU16	Opequon Creek - Hoge Run	2.6	Yes	Yes	Yes	7/9/2010	Unknown	
Amherst St. CVS	N/A	Private	149-1--8-B	Summit Community Bank			100 West Jubal Early Drive, Winchester, VA 22601	1721 Amherst Street	1721 Amherst Street	SP-05-29	10/7/2005			10/7/2005	050005003	SWM Pond (0008)	PU17	Abrams Creek	43.5	Yes	Yes	No	N/A	As Needed	
Bank of Clarke County	PHR&A	Private	291-1-14-3B-	Bank of Clarke County	Tim Wolfe	(540) 955-2510	P.O. Box 60, Winchester, VA 22604	2555 S. Pleasant Valley Road	2555 S. Pleasant Valley Road	SP-09-255	10/31/2009	11/17/2009	12/16/2009			Downstream Defender (0010)	PU17	Abrams Creek	1.12	Yes	Yes	No	N/A	As Needed	
Berryville Ave. CVS	N/A	Private	176-6--8-	CVS Pharmacy, Inc.			840 Berryville Avenue, Winchester VA 22601	840 Berryville Avenue	840 Berryville Avenue	SP-07-11	N/A					Underground Detention (0012)	PU17	Abrams Creek	1.1	Yes	Unknown	No	N/A	As Needed	
BSW Investments	BSW Investments, LLC	Private	271-7--B-	BSW Investments, LLC	Stephen Wilson		401 Madison Forest Drive, Herndon, VA 20170	2264 Papermill Rd.	2264 Papermill Rd.	SP-07-19	8/13/2009	8/19/2009	9/16/2009			Rain Garden (0013)	PU17	Abrams Creek	.16	No	N/A	N/A	N/A		
Burke Center	N/A	Private	271-2--A-	Burke Realty Inc.	Glen Paul Burke	(540) 722-2087	2224 Wilson Boulevard, Winchester, VA 22601	2 Weems Lane	2 Weems Lane	SP-85-116	N/A					SWM Pond (0039)	PU17	Abrams Creek	7.1	Yes	Yes	Yes	7/16/2010	As Needed	
Byrd Office Building	N/A	Private	310-1--17-	Byrd Enterprises, LLC	Sheryl Wolford	(540) 550-4134	2913 Valley Avenue, Winchester, VA 22601	2909-2919 Valley Avenue	2909 Valley Avenue	SP-06-07	N/A					SWM Pond (0014)	PU16	Opequon Creek - Buffalo Lick Run	2.06	Yes	Yes	Yes	7/14/2010	As Needed	
Castleman Subdivision	N/A	Public	193-1-N-5-	City of Winchester	Tom Denney		15 N. Cameron Street, Winchester, VA 22601	Mosby Street ROW	319 Mosby Street	SP-06-02	N/A					Underground Detention (0016)	PU17	Abrams Creek	6.39	Yes	Yes	Yes	9/8/2010	As Needed	
Cedar Creek Grade (a)	Painter-Lewis	Private	269-2--69-A	Treybul Co., LLC		(540) 722-9799	817 Cedar Creek Grade, Suite 120, Winchester, VA 22601	817 Cedar Creek Grade	817 Cedar Creek Grade	SP-06-44	2/19/2007	3/16/2007	3/13/2007			Filterra Units (0018)(0021)	PU17	Abrams Creek	2.7	Yes	Yes	Yes	7/14/2010	Quarterly & As Needed	
Cedar Creek Grade (b)	Painter-Lewis	Private	269-2--70-A	Dinapoli Properties, LLC		(540) 722-9799	905 Cedar Creek Grade, Winchester, VA 22601	905 Cedar Creek Grade	905 Cedar Creek Grade	SP-06-44	2/19/2007	3/16/2007	3/13/2007			Filterra Units (0017)(0019)(0020)	PU17	Abrams Creek	2.7	Yes	Yes	Yes	1/14/2010	Quarterly & As Needed	
Cedar Hill Apartments		Private	270-1--1-	Melco Inc.			609 Cedar Creek Grade, Suite A, Winchester, VA 22601	629 Cedar Creek Grade	2250 Sofia Way	SP-12-512	6/11/2014	6/11/2014	6/17/2014	10/14/2014	140002257	Filterra (0186)(0187)(0188)(0189) Grass Swale (0190)	PU17	Abrams Creek	.38, .25, .25, .25, .20	No	N/A	N/A	N/A	As Needed	
Centre at Winchester - Home Depot, Target	N/A	Private	292-01--3-	Dierman Realty Group	Vicky Smith	(703) 749-5372	1313 Dolly Madison Boulevard, Suite 401, Mclean, VA 22101	2300 Legge Boulevard	2300 Legge Boulevard	SP-99-23	N/A					SWM Pond (0022)	PU17	Abrams Creek	8.5	Yes	No	Yes	7/15/2010	As Needed	May need second pond added - verify ownership
Chuck E. Cheese's		Private	292-02--3-	Glaize Developments			P.O. Box 888, Winchester VA 22604	145 East Tevis Street	145 East Tevis Street	SP-12-542	12/14/2012	12/11/2013	12/15/2013	12/19/2013	130003424	Filterra (0215)(0216)	PU16	Opequon Creek - Buffalo Lick Run	.25, .29	Yes	N/A	N/A	N/A	As Needed	
City National Bank		Private	231-09--2-	City National Bank			P.O. Box 7520, Cross Lanes, WV 25356	220 West Jubal Early Drive	220 West Jubal Early Drive	SP-13-282	11/7/2012	9/12/2013	9/12/2013	9/23/2013	130002660	Underground Detention (0183) Filterra (0184)(0185)	PU17	Abrams Creek	.29, .21, .29	Yes	N/A	No	N/A	As Needed	
Commercial Street Used Cars	N/A	Private	133-1-J-3-	Kay-Mor, Inc.	Lou Dellinger	(540) 667-9014	326 Amherst Street, Winchester, VA 22601	154 Commercial Street	154 Commercial Street	SP-09-07	N/A					Underground Detention (0024)	PU17	Abrams Creek	.7	No	N/A	N/A	N/A		
Commonwealth Plaza - Phase 3	Painter-Lewis	Private	252-2--1-	GWG Profit Sharing, TST Properties	George Glaize	(540) 533-0474	104 Dutton Place, Winchester, VA 22601	2001-2031 South Loudoun St	2021 South Loudoun Street	SP-10-305	2/7/2011	2/8/2011	2/18/2011			Filterra (0160)	PU17	Abrams Creek	.17	No	N/A	N/A	N/A	As Needed	
Cottages at Willow Lawn	N/A	Private	230-05-A-130-	City of Winchester			15 N. Cameron Street, Winchester, VA 22601	Corner of Sterling and Harvest Drives	Corner of Sterling and Harvest Drives	SP-97-61	N/A					SWM Pond (0025)	PU17	Abrams Creek	40.6	Yes	Yes	Yes	9/9/2010	As Needed	
Craun Property	German Engineering	Private	213-1-N-7-	Craun LLC	Randy Craun		703 S. Stewart Street, Winchester, VA 22601	220 E. Pall Mall Street	220 E. Pall Mall Street	SP-08-32	10/28/2008	11/3/2008	11/19/2008			Filterra (0026)	PU17	Abrams Creek		No	N/A	N/A	N/A	Quarterly & As Needed	
Dermatology Associates	N/A	Private	150-1--7-A	Dermatology Associates	Tanya Long		1514 Amherst Street, Winchester, VA 22601	1514 Amherst Street	1514 Amherst Street	SP-00-44	N/A					SWM Pond (0027)	PU17	Abrams Creek	5.2	Yes	Yes	Yes	7/13/2010	As Needed	
Dixie Beverage	N/A	Private	311-1--12-	Shenandoah Valley Distributing Company			2705 South Pleasant Valley Road, Winchester, VA 22601	2705 South Pleasant Valley Road	2705 South Pleasant Valley Road	SP-15-205	5/26/2015	6/17/2015	6/22/2015			Bioretention (0235)(0236)(0237)	PU16	Opequon Creek - Buffalo Lick Run	.45 ,.99, .63	No	No	No	N/A	As Needed	
Drissi Plaza	N/A	Private	252-04--A-	Drissi Properties, LLC	Abe Drissi	(703) 834-0011	12839 Tournament Drive, Reston, VA 20191	29-35 E. Jubal Early Drive	35 E. Jubal Early Dr.	SP-04-15	N/A					Underground Detention (0028)	PU17	Abrams Creek	2.1	Yes	Yes	Yes	7/23/2010	As Needed	
East Tevis Street Extension	PHR&A	Private	292-2--3-, 292-2--2-	Glaize Developments	JP Carr		P.O. Box 888, Winchester, VA 22604	201-240 E. Tevis St.	2600 Pleasant Valley, 201 E. Tevis	SD-07-03	10/3/2007	10/3/2007	10/8/2007	10/16/2007	070003537	WQ Ponds (0030)(0031)	PU17	Abrams Creek	76	No	N/A	N/A	N/A	As Needed	
Elite Settlements	Montgomery Engineering	Private	212-1-G-1-	Jeffrey & Karen Gordon			802 South Braddock Street, Winchester, VA 22601	802 South Braddock Street	802 South Braddock Street	SP-07-52	11/9/2007	11/12/2007	11/14/2007	11/27/2007	070003965	Permeable Pavement (0032)	PU17	Abrams Creek	0.1	No	N/A	N/A	N/A	As Needed	
FCPS Admin Annex	FCPS	Private	170-1--3-	Frederick County Public Schools	Wayne Lee	(540) 662-3889	1415 Amherst Street, Winchester, VA 22601	1415 Amherst Street	1415 Amherst Street	SP-08-04	4/7/2008	4/7/2008	4/8/2008	4/28/2008	080001158	Raingarden (0033) Infiltration Swale (0034)	PU17	Abrams Creek	.2	Yes	Yes	Yes	7/20/2010	Yearly or A/N	
FCPS Admin Building Addition	FCPS	Private	170-1--3-	Frederick County Public Schools	Wayne Lee	(540) 662-3889	1415 Amherst Street, Winchester, VA 22601	1415 Amherst Street	1415 Amherst Street	SP-10-741	4/7/2008	4/7/2008	4/8/2008	4/28/2008	080001158	Filterra (0161)	PU17	Abrams Creek	.2	Yes	N/A	N/A	N/A	Yearly or A/N	
Featherbed Lane - Lot 3	Bowman	Private	252-1-C-3-	Windewald Enterprises, LLC			1025 Winchester Avenue, Martinsburg, WV 25401	80 Featherbed Lane	80 Featherbed Lane	SP-15-111	4/16/2015	4/27/2015	4/30/2015			Filterra (0035)(0036) Rain Garden (0037)	PU17	Abrams Creek	1.14	No	N/A	N/A	N/A	Quarterly & As Needed	
Fern Adams Building	N/A	Private	193-4--1-	Fern Adams Building, LLC	Gary Spitalski	(540) 247-6508	303 South Loudoun Street, Winchester, VA 22601	303-307 South Loudoun Street	307 South Loudoun St.	SP-97-52	N/A					Underground Detention (0038)	PU17	Abrams Creek	.47	Yes	Yes	Yes	8/31/2010	As Needed	
Five Star Auto Spa	Painter-Lewis	Private	292-01--5-	One Hanul LLC	Hyun Kim		555 Adams Drive, Winchester, VA 22601	555 & 565 Adams Drive	555 Adams Drive	SP-10-642	2/3/2011	2/8/2011	2/18/2011			Filterra (0162)	PU17	Abrams Creek	.11	No	N/A	N/A	N/A	As Needed	
Frederick Douglas School	N/A	Public	311-1--20-	City of Winchester			15 N. Cameron Street, Winchester, VA 22601	100 West Cedarmeade Avenue	100 West Cedarmeade Avenue		N/A					SWM Pond (0040)	PU16	Opequon Creek - Buffalo Lick Run	78.9	Yes	Yes	No	N/A	As Needed	
Friendship Fire Hall	N/A	Public	175-1--23B-	City of Winchester	Kevin Sine		15 N. Cameron Street, Winchester, VA 22601	627 North Pleasant Valley Road	627 North Pleasant Valley Road		N/A					SWM Pond (0041)	PU17	Abrams Creek	50.5	Yes	Yes	Yes	10/7/2010	As Needed	
Ft. Collier Rd. Food Lion	N/A	Private	176-7--2B-	Kentland Foundation Inc.			P.O. Box 879, Berryville, VA 22611	699 Fort Collier Road	699 Fort Collier Road	SP-94-24	N/A					SWM Pond (0029)	PU17	Abrams Creek	20.2	Yes	No	No	N/A	As Needed	
G&M Music	Painter-Lewis	Private	252-6--1-	Carolin M. Schebish			13224 Springdale Estates Rd, Clifton, VA 20124	1817 S. Loudoun St.	1817 S. Loudoun St.	SP-09-68	7/10/2009	7/10/2009	8/10/2009	8/19/2009	090002226	Rain Garden (0042)	PU17	Abrams Creek	0.15	No	N/A	N/A	N/A	As Needed	
Gateway Center		Private	150-1--11-	Gateway Medical Center, LLC			1025 Martinsburg Pike, Winchester, VA 22602	1705 Amherst Street	1705 Amherst Street	SP-12-186	4/2/2014					Cartridge Filter (0219)(0221) Underground Detention (0220) Dry Pond (0222)	PU17	Abrams Creek	.16, 1.46, 1.46, .77	Yes	Unknown	No	N/A	As Needed	
George Washington Autopark	PHR&A	Private	173-1-P-4A-	Winchester Parking Authority	Samantha Anderson	(540) 665-0355	15 N. Cameron Street, Winchester, VA 22601	131 North Kent Street	131 North Kent Street	SP-08-11	4/4/2008	4/7/2008	4/8/2008			Filterra Unit (0015)	PU17	Abrams Creek	.2	Yes	Yes	Yes	7/1/2010	Quarterly & As Needed	
Glaize Pleasant Valley Commercial		Private	292-02--3-	Glaize Developments	JP Carr		P.O. Box 888, Winchester VA 22604	2600 S. Pleasant Valley Road	2600 S. Pleasant Valley Road	SP-07-01	6/11/2015	7/21/2015	7/23/2015			Filterra Units (0150)(1051)(0152)(0153)(0154)(0155)	PU16	Opequon Creek - Buffalo Lick Run	1.06	No	N/A	N/A	N/A		
Harvest Drive Medical	Painter-Lewis	Private	230-4--1-A	Valley Proteins, Inc.			151 Valpro Drive, Winchester, VA 22603	501-519 West Jubal Early Drive	501-519 West Jubal Early Drive	SP-07-59	9/25/2012	9/28/2012	10/15/2012	4/24/2013	130001131	Filterra Units (0046)(0047)(0048)(0049)(0050)(0051)(0052) Pervious Pavers (0053) Grass Swale (0163)(0164)	PU17	Abrams Creek	7.1	Yes	N/A	N/A	N/A	Quarterly & As Needed	

Project	Applicant	Public/ Private	Tax Map #	Property Owner	Property Contact	Contact Number	Property Owner Address	Property Address	Closest Street Address	ID Number	Date Received	Date Signed by Engineer	Date Signed by City Attorney	Date Recorded	Instrument #	BMP Type(Number)	HU Code	Waterbody	Acres Treated	Constructed?	Maintained?	Inspected?	Last Inspection Date	Maintenance Schedule	Comments
Henkel-Harris	N/A	Private	331-1--1-	Henkel-Harris III, LLC	Daniel Largent	(540) 667-4900	701 Fairmont Avenue, Winchester, VA 22601	180 Battaile Drive	180 Battaile Drive	SP-87-06	N/A					SWM Pond (0054)	PU16	Opequon Creek - Buffalo Lick Run	30.1	Yes	Yes	Yes	7/16/2010	As Needed	
High End Automotive	N/A	Private	330-02--5-	SMD Properties, LLC	Frank Ghassemi		P.O. Box 8881, Reston, VA 20195	2970 Valley Avenue	2970 Valley Avenue	SP-07-14	3/5/2007	3/22/2007	4/2/2007	4/16/2007	070001306	SWM Pond (0055) Rain Garden (0056)	PU16	Opequon Creek - Hoge Run	0.5	Yes	Unknown	No	N/A	As Needed	
Hilton Garden Inn	N/A	Private	253-1--11-	Lucky 7 LP-LLP	Sherri Cooper		1025 Martinsburg Pike, Winchester, VA 22601	120 Wingate Drive	120 Wingate Drive	SP-06-42	1/19/2009	1/19/2009	2/9/2009	3/27/2009	090000799	Underground Detention (0057)	PU17	Abrams Creek	5.5	Yes	Yes	Yes	7/16/2010	As Needed	
Hirschberg Office Building	N/A	Private	149-02-A-2-2	Neurosurgical Investment Properties			1818 Amherst Street, Winchester, VA 22601	1818 Amherst Street	1818 Amherst Street	SP-97-58	N/A					Infiltration (0058)	PU17	Abrams Creek	1.1	Yes	Yes	Yes	7/16/2010	As Needed	
History and Tourism Center	N/A	Public	234-01--14-	City of Winchester	Tom Denney		15 N. Cameron Street, Winchester, VA 22601	1400 S. Pleasant Valley Rd.	1400 S. Pleasant Valley Rd.	SP-05-27	N/A					Rain Gardens (0059)(0060)	PU17	Abrams Creek	3.4	Yes	Yes	No	N/A	Yearly or A/N	
HN Funkhouser	Greenway Engineering	Private	272-1--7-	KVC LLC	Randy Jones	(540) 662-9000	P.O. Box 2038, Winchester, VA 22604	2150 S. Loudoun Street	2150 S. Loudoun Street	SP-07-48	11/1/2007	11/9/2007	11/14/2007			SWM Pond (0062) Grass Swales (0063)(0064)(0065)	PU17	Abrams Creek	1.9	Yes	Yes	Yes	7/14/2010	As Needed	
Hope Drive Site Plan	N/A	Private	270-1--8C-	Summit Community Bank	Bill Wiley		P.O. Box 179, Moorefield, WV 26836	321 Hope Drive	321 Hope Drive	SP-06-03	10/29/2009	11/17/2009	12/16/2009			SWM Pond (0066)	PU16	Opequon Creek - Buffalo Lick Run	2.69	Yes	N/A	N/A	N/A	As Needed	
Hope Drive Subdivision	N/A	Private	270-01--8-D	City of Winchester	Tom Denney		15 N. Cameron Street, Winchester, VA 22601	230 Hope Drive	230 Hope Drive	SD-04-07	N/A					SWM Pond (0067)	PU17	Abrams Creek	66.0	Yes	Yes	No	N/A	As Needed	
Islamic Society of Winchester		Private	195-10-B-69-	Islamic Society of Winchester	Zafar Jawaid		601 Woodstock Lane, Winchester, VA 22601	601 Woodstock Lane	601 Woodstock Lane	SP-08-34	11/1/2008	11/10/2008	11/20/2008	11/17/2009	090003047	Permeable Pavement (0068)	PU17	Abrams Creek		Yes	Yes	Yes	7/16/2010	As Needed	
JD Byrider	Montgomery Engineering	Private	252-1-16-	JSB Associates			1930 South Loudoun Street, Winchester, VA 22602	1930 S. Loudoun Street	1930 S. Loudoun Street	SP-10-370	9/10/2010	5/27/2011	6/9/2011	9/10/2010	100001144	SWM Pond (0104)	PU17	Abrams Creek	1.41	Yes	N/A	N/A	N/A		
Jenkins - Cooper	N/A	Private	310-01--27-	Jenkins Cooper,LLC			2258 Valley Avenue, Winchester, VA 22601	2944-2950 Valley Ave.	2944 Valley Ave.	SP-06-56	N/A					Detention Pond (0069)	PU16	Opequon Creek - Hoge Run	.68	No	N/A	N/A	N/A	As Needed	
John Handley High School	N/A	Private	211-01--1-, 212-01--1-	Winchester Public School Board	Kevin McKew		12 N. Washington Street, Winchester, VA 22601	425 Handley Boulevard	425 Handley Boulevard	SP-06-08, SP-08-44, SP-08-44A	5/14/2009	6/23/2009	8/10/2009	2/10/2011	110000346	Underground Detention (0070)(0071)(0072)	PU17	Abrams Creek	8.2	Yes	Yes	No	N/A	As Needed	
Jubal Early Plaza I - Lot 2	N/A	Private	252-01-A-2-	Craun LLC			Box 3124594, Sioux Falls, SD 57186	21-29 W. Jubal Early Dr.	21 W. Jubal Early Dr.	SP-97-25	N/A					Detention Pond (0073)	PU17	Abrams Creek	4.22	Yes	Unknown	No	N/A	As Needed	
Jubal Early Plaza II - Lot 9	N/A	Private	252-01-B-9-1820	Women's Center of Winchester			1820 Plaza Drive, Winchester, VA 22601	1820 Plaza Dr.	1820 Plaza Dr.	SP-02-21	N/A					Detention Pond (0074)	PU17	Abrams Creek	4.22	Yes	Yes	Yes	7/16/2010	As Needed	
KSR LLC	N/A	Private	193-01-U-3-	The Townes at Kent HOA	Sarah Kushner		208 S. Kent Street, Winchester, VA 22601	210 E. Clifford St.	210 E. Clifford St.	SP-06-36	N/A					Sand Filter (0075)	PU17	Abrams Creek	.12	Yes	Unknown	No	N/A	As Needed	
Limestone Court	N/A	Private	290-09--31-, 290-9--32-	Limestone Court HOA			2672 Limestone Court, Winchester, VA 22601	2610 Hockman Ave.	2610 Hockman Ave., 2662 Limestone Ct.	SP-91-13, SP-96-34	N/A					SWM Pond (0077)(0135)	PU17	Abrams Creek	18.3	Yes	Unknown	No	N/A	As Needed	
Linden Drive Office Park	N/A	Private	150-02-B-3-	La Rose, LLC			1609 Van Couver Street, Winchester, VA 22601	132 Linden Dr.	132 Linden Dr.	SP-03-20	N/A					Detention Pond (0078)	PU17	Abrams Creek	2.13	Yes	N/A	N/A	N/A	As Needed	
Linden Heights Animal Hospital	Artz & Associates	Private	150-02-B-19-	Schmitt Properties	Peter & Joseph Schmitt		274 Linden Drive, Winchester, VA 22601	274 Linden Drive	274 Linden Drive	SP-07-38	10/3/2007	10/3/2007	10/8/2007	10/26/2007	070003666	Rain Garden (0079)	PU 17	Abrams Creek	1.34	Yes	N/A	N/A	N/A	As Needed	
Linden Medical Center	N/A	Private	150-02-B-15-CE	Linden Westside Condominiums Assoc.			P.O. Box 2370, Winchester, VA 22604	172 Linden Dr.	172 Linden Dr.	SP-04-42	N/A					Detention Pond (0080)	PU17	Abrams Creek	4.4	Yes	Yes	Yes	7/13/2010	As Needed	
Lowes	N/A	Private	272-01--C1-	Lowes Home Center, Inc.	Steve Willins	(336) 658-5239	P.O. Box 1111, North Wilkesboro, NC 28656	2230 Pleasant Valley Road	2230 Pleasant Valley Road	SP-97-53	N/A					SWM Pond (0081)	PU17	Abrams Creek	13.5	Yes	Yes	No	N/A	As Needed	
Lowes	N/A	Private	293-01--1-	Albert Kassabian			4201 Annandale Road, Annandale, VA 22003	2210 Legge Blvd.	2210 Legge Blvd.	SP-97-53	N/A					SWM Pond (0082)	PU17	Abrams Creek	19.7	Yes	Yes	Yes	7/24/2010	As Needed	
Madison Center	Artz & Associates	Private	270-6--2-	NC Development LLC	Matt Carroll & Tim Gamble		P.O. Box 31, Winchester, VA 22604	320 Hope Drive	320 Hope Drive	SP-07-37	10/7/2009	10/7/2009	11/3/2009	11/9/2009	090002958	Rain Garden (0083)(0084)(0085)(0086)(0087) Underground Storage (0088)	PU17	Abrams Creek	2.6	Yes	Unknown	No	N/A	As Needed	
Madison Place I	N/A	Private	351-01--19-	Madison Winds, LLC			P.O. Box 2468, Winchester, VA 22604	3018 Shawnee Dr.	3018 Shawnee Dr.	SP-05-28	N/A					Detention Pond (0089)	PU16	Opequon Creek - Buffalo Lick Run	5.53	Yes	Yes	Yes	7/16/2010	As Needed	
Major Properties		Private	153-1-J-3-	Major Properties, LLC			150 Commercial Street, Winchester, VA 22601	150 Commercial Street	150 Commercial Street	SP-14-280	6/30/2014	6/30/2014	7/8/2014	2/27/2015	150000380	Permeable Pavers (0109)	PU17	Abrams Creek	0.72	Yes	Unknown	No	N/A	As Needed	
McDonald's - Berryville Ave.	N/A	Private	176-03--20-A	James Edward Butcher, Trustee			c/o Nerangis Restaurant Ventures, 500 Pegasus Court, Winchester, VA 22602	1124 Berryville Ave.	1124 Berryville Ave.	SP-99-05	N/A					Underground Detention (0090)	PU17	Abrams Creek	.6	Yes	No	Yes	7/16/2010	As Needed	
McKinley Office Building	N/A	Private	176-03--12-B	Michael J. Bermel			10550 Marbury Road, Oakton, VA 22124	700 Fort Collier Road	700 Fort Collier Road	SP-00-37	N/A					SWM Pond (0091)	PU17	Abrams Creek	3.2	Yes	Unknown	No	N/A	As Needed	
Meddent Center	Triad Engineering	Private	171-07--2-	Meddent LLC			1002 Amherst Street, Winchester, VA 22601	1002 Amherst Street	1002 Amherst Street	SP-07-33	8/13/2007	8/15/2007	8/15/2007			Rain Garden (0092)	PU17	Abrams Creek	.4	No	N/A	N/A	N/A	As Needed	
Medical Circle Imaging	N/A	Private	171-08--B2	Neurological Properties, LLC	Gary Steele	(540) 667-1828	125 Medical Circle, Suite A, Winchester, VA 22601	125 Medical Circle	125 Medical Circle	SP-09-278	12/2/2010	12/3/2010	1/6/2011	2/14/2011	110000357	Filterras (0165)(0166) Underground Detention (0167)			.57	Yes	Uknown	No	N/A	Quarterly & As Needed	
Morlyn Hills Subdivision	N/A	Public	188-06--61-	City of Winchester	Tom Denney		15 N. Cameron Street, Winchester, VA 22601	1643 Meadowbranch Avenue	1511 Spring House Court	SD-02-02	N/A					Wetlands, Retention Pond (0093)	PU17	Abrams Creek		Yes	Unknown	No	N/A	As Needed	
New John Kerr Elementary School	N/A	Private	169-1--3-	Winchester Public School Board	Kevin McKew		12 N. Washington Street, Winchester, VA 22601	427 Meadowbranch Avenue	427 Meadowbranch Avenue	SP-14-686	11/6/2014	2/24/2015	3/2/2015			Bioretention (0232)(0233)(0234)	PU17	Abrams Creek	1.19, 1.24, 4.42	No	No	No	N/A	As Needed	
Northside Station	N/A	Private	134-5--6-	Pari Plaza LLC			7204 Hickory Street, Falls Church, VA 22043	821 North Loudoun Street	821 North Loudoun Street		N/A					Infiltration Gallery (0139)	PU18	Redbud Run	1.6	Yes	Yes	Yes	8/13/2010	As Needed	
Omps Pet Crematory	N/A	Private	150-15--3-	Omps Funeral Home			1600 Amherst Street, Winchester, VA 22601	1560 Amherst Street	1560 Amherst Street	SP-09-386	6/16/2011	6/16/2011	7/8/2011	8/3/2011	110001846	Rain Garden (0168)	PU17	Abrams Creek	4.57	Yes	Uknown	No	N/A	As Needed	
Orchard Hill Section 7A		Private	229-03-7-227-	Oakcrest Properties			126 N. Kent Street, Winchester, VA 22601	1946 Cidermill Lane	1946 Cidermill Lane	SP-11-704	3/20/2013	3/25/2013	3/28/2013	4/24/2013	130001130	General Infiltration (0061)	PU17	Abrams Creek	1.2	Yes	Yes	No	N/A	As Needed	
Orchard Terrace	N/A	Private	154-10-B-115-	City of Winchester	Tom Denney		15 N. Cameron Street, Winchester, VA 22601	282 Green Street	282 Green Street	SD-01-06	N/A					SWM Pond (0094)	PU18	Redbud Run	6.4	Yes	Yes	No	N/A	As Needed	City inspects, Owners group maintains
Our Health - Phase II	N/A	Private	173-01-L-13-	North Cameron Properties, LLC	John Willingham		925 Meadow Court, Winchester, VA 22601	10 Baker St.	10 Baker St.	SP-08-30	3/31/2010	3/23/2010	4/5/2010	5/26/2010	100001136	Permeable Pavement (0095)	PU17	Abrams Creek	.08	Yes	Yes	Yes	9/20/2010	Quarterly & As Needed	
Panera	PHR&A	Private	291-05--1-	Glaize Developments	JP Carr		P.O. Box 888, Winchester VA 22604	2608 & 2620 Papermill Road	2608 & 2620 Papermill Road	SP-07-06	4/2/2007	4/2/2007	4/13/2007	4/25/2007	070001427	Filterra Units (0096)(0097)(0098) Water Quality Basin (0099)	PU16	Opequon Creek - Buffalo Lick Run	1.5	Yes	Yes	Yes	7/30/2010	Quarterly & As Needed	
Park Place	N/A	Public	250-04-B-89-	City of Winchester	Kevin Sine		15 N. Cameron Street, Winchester, VA 22601	760 Beehive Way	760 Beehive Way		N/A					SWM Pond (0100)	PU17	Abrams Creek	33.1	Yes	Yes	No	N/A	As Needed	
Patriot Collision Center	N/A	Private	351-1--7-	Patriot Collision Center LLC		(540) 722-8760	3066 Shawnee Drive, Winchester, VA 22601	3066 Shawnee Drive	3066 Shawnee Drive	SP-95-57	N/A					SWM Pond (0101)	PU16	Opequon Creek - Hoge Run	1.2	Yes	Unknown	No	N/A	As Needed	
Pine-Burke Apartments - Phase I	N/A	Private	271-04--13-	Pine-Burke Realty, LLC			2224 Wilson Boulevard, Winchester, VA 22601	2-14 Taft Ave.	2-14 Taft Ave.	SP-97-63	N/A					Underground Detention (0103)	PU17	Abrams Creek	.47	Yes	Yes	Yes	7/16/2010	As Needed	
Popeye's	N/A	Private	290-06--2-	Christina Tseng			160 Lenz Lane, Stephens City, VA 22655	2659 Valley Ave.	2659 Valley Ave.	SP-03-11	N/A					Underground Detention (0105)	PU16	Opequon Creek - Buffalo Lick Run	.93	Yes	Unknown	No	N/A	As Needed	
Roberts Street Plaza Parking		Private	231-9--1-	1818 Robert, LC			1816 Roberts Street, Winchester, VA 22601	1811 Roberts Street	1811 Roberts Street	SP-13-227	1/6/2014	1/7/2014	2/6/2014	2/27/2015	150000379	Filterra (0191)	PU17	Abrams Creek	0.33	Yes	Unknown	No	N/A	As Needed	
Robinson School	N/A	Public	291-1--3A-	Frederick County School Board			P.O. Box 3508, Winchester, VA 22604	2400 Roosevelt Boulevard	2400 Roosevelt Boulevard		N/A					SWM Pond (0106)	PU17	Abrams Creek	25.2	Yes	Yes	No	N/A	As Needed	
Rolling Hills Park	N/A	Public	289-07--1-	City of Winchester	P&R		15 N. Cameron Street, Winchester, VA 22601	702 Kennedy Drive	702 Kennedy Drive		N/A					SWM Pond (0107)	PU16	Opequon Creek - Buffalo Lick Run	4.5	Yes	Yes	No	N/A	As Needed	
Rolling Hills Subdivision	N/A	Private	289-08-2-65-A	Rolling Hills Estate HOA	Jessica Wood	(304) 596-6630	c/o Clagett Enterprises, 142 N. Queen Street, Martinsburg, WV 25401	612 Lake Dr.	612 Lake Dr.	SD-03-02	N/A					Detention Pond (0108)	PU16	Opequon Creek - Buffalo Lick Run	54.7	Yes	Unknown	No	N/A	As Needed	

Project	Applicant	Public/ Private	Tax Map #	Property Owner	Property Contact	Contact Number	Property Owner Address	Property Address	Closest Street Address	ID Number	Date Received	Date Signed by Engineer	Date Signed by City Attorney	Date Recorded	Instrument #	BMP Type(Number)	HU Code	Waterbody	Acres Treated	Constructed?	Maintained?	Inspected?	Last Inspection Date	Maintenance Schedule	Comments
Rubbermaid Building Expansion	Greenway Engineering	Private	330-01--11-	Rubbermaid Commercial Products	Jeff Edwards	(540) 542-8266	3124 Valley Avenue, Winchester, VA 22601	3124 Valley Avenue	3124 Valley Avenue	SP-11-717	N/A					SWM Pond (102)	PU17	Abrams Creek	1.40, 2.28, 35.67	Yes	N/A	N/A	N/A	As Needed	
Rubbermaid Storage Area	Greenway Engineering	Private	330-01--11-	Rubbermaid Commercial Products	Jeff Edwards	(540) 542-8266	3124 Valley Avenue, Winchester, VA 22601	3124 Valley Avenue	3124 Valley Avenue	SP-12-331	12/16/2010	12/23/2010	1/6/2011			Water Quality Swales (0169)(0170)	PU17	Abrams Creek	.49, .27	Yes	N/A	N/A	N/A	As Needed	
Saturn of Winchester	N/A	Private	329-01--9-	O'Malley LLC			3019 Valley Avenue, Winchester, VA 22601	3019 Valley Ave.	3019 Valley Ave.	SP-12-332	N/A					Stormwater Management Pond (0011)	PU-16	Opequon Creek - Hoge Run	3.8	Yes	Yes	No	N/A	As Needed	
Selma Medical	N/A	Public	172-01--17->A	City of Winchester	Tom Denney		15 N. Cameron Street, Winchester, VA 22601	124 Selma Drive	330 Amherst Street	SP-92-04	N/A					SWM Pond (0110)	PU17	Abrams Creek	7.5	Yes	Yes	No	N/A	As Needed	
Shawnee Drive Business Park	Urban Engineering	Private	332-01--2-	ZL Metz Contracting	Zane Metz		P.O. Box 2999, Winchester, VA 22604	2900 Shawnee Drive	2900 Shawnee Drive	SP-08-06	1/6/2009	1/6/2009	2/9/2009			Underground Detention (0111) Bioretention Filter (0171)	PU16	Opequon Creek - Buffalo Lick Run	2.42, 2.42	No	N/A	N/A	N/A		
Shawnee Fire Department	N/A	Private	271-03--7-	Shawnee Volunteer Fire Dept			2210 Valor Drive, Winchester, VA 22601	2210 Valor Drive	2210 Valor Drive	SP-02-30	N/A					SWM Pond (0112)	PU17	Abrams Creek	20.3	Yes	Yes	Yes	7/21/2010	As Needed	
Sorrell Court	N/A	Private	310-14--23-	Sorrell Court HOA	Mark Schloemer		c/o Coventry Group, 302 W. Boscawen Street, Suite 3B, Winchester, VA 22601	2946 Sorrel Ct.	2946 Sorrel Ct.		N/A					SWM Pond (0116)	PU16	Opequon Creek - Buffalo Lick Run	4.8	Yes	Unknown	No	N/A	As Needed	Oakcrest trying to establish ownership of BMP parcel.
South Valley Plaza	Greenway Engineering	Private	311-01--10-	Tran Chu LLC	Wilson Chu		5851 Saddle Downs Place, Centreville, VA 20120	2725 S. Pleasant Valley Road	2725 S. Pleasant Valley Road	SP-07-43	12/10/2007	12/10/2007	12/19/2007			Filterra Units (0172)(0173)(0174)(0175)(0176)(0177)(0178)(0179)	PU16	Opequon Creek - Buffalo Lick Run	3.1	No	N/A	N/A	N/A	As Needed	
Southside Church of Christ		Private	332-01--1-	Southside Church of Christ			3136 Papermill Road, Winchester, VA 22601	3136 Papermill Road	3136 Papermill Road	SP-13-355	9/26/2013	10/1/2013	10/3/2013			General Infiltration (0023)	PU17	Abrams Creek	0.75	No	N/A	N/A	N/A	As Needed	
Spanish United Pentecostal Church	Grey Wolf, Inc.	Private	175-11--10-	Spanish United Pentecostal Church Trustees			672 Virginia Avenue, Winchester, VA 22601	672 Virginia Avenue	672 Virginia Avenue	SP-11-131	4/22/2011	5/16/2011	6/8/2011	4/24/2013	130001132	Pervious Pavers (0180)	PU16	Abrams Creek	0.23	Yes	N/A	N/A	N/A	As Needed	
Spencer Square	N/A	Private	310-17--11-	Melco Inc	Kit Molden	(540) 667-3900	609 Cedar Creek Grade, Suite A, Winchester, VA 22601	2850 Spencer Square	2850 Spencer Square	SP-92-06	N/A					Stormwater Detention Basin (0117)	PU16	Opequon Creek - Buffalo Lick Run	1.5	Yes	Uknown	No	N/A	As Needed	
Spring Street		Public	Spring Street ROW	City of Winchester	Tom Denney		15 N. Cameron Street, Winchester, VA 22601	Spring Street ROW		SP-14-84						Filterra (0223)(0224)(0225)	PU17	Abrams Creek	.05, .05, .30	No	Unknown	No	N/A	As Needed	
St. James Place	German Engineering	Private	213-01-K-8-	Kee Properties, LLC			420 W. Jubal Early Drive, Winchester, VA 22601	118 East James Street	118 East James Street	SP-06-31	10/2/2014	10/7/2014	10/9/2014	10/14/2014	140002256	Rain Garden (0118)	PU17	Abrams Creek	0.035	Yes	N/A	N/A	N/A	As Needed	
St. James Place	German Engineering	Private	213-01-K-8-A	Courtney Crawford			120 East James Street, Winchester, VA 22601	120 East James Street	120 East James Street	SP-06-31	9/25/2014	10/7/2014	10/9/2014	10/14/2014	140002254	Rain Garden (0118)	PU17	Abrams Creek	0.035	Yes	N/A	N/A	N/A	As Needed	
St. James Place	German Engineering	Private	213-01-K-8-B	Andrew Hynes			122 East James Street, Winchester, VA 22601	122 East James Street	122 East James Street	SP-06-31	10/3/2014	10/7/2014	10/9/2014	10/14/2014	140002253	Rain Garden (0118)	PU17	Abrams Creek	0.035	Yes	N/A	N/A	N/A	As Needed	
St. James Place	German Engineering	Private	213-01-K-8-	Stephen & Beth Melling			124 East James Street, Winchester, VA 22601	124 East James Street	124 East James Street	SP-06-31	9/24/2014	10/7/2014	10/9/2014	10/14/2014	140002255	Rain Garden (0118)	PU17	Abrams Creek	0.145	Yes	N/A	N/A	N/A	As Needed	
Star Beauty School	Urban Engineering	Private	213-2-1A	Alcira Blasutto		(540) 723-0725	219 Millwood Ave., Winchester, VA 22601	219 Millwood Avenue	219 Millwood Avenue	SP-10-402	9/28/2010	10/1/2010	10/3/2010			Rain Garden (181)	PU17	Abrams Creek	.37	No	N/A	N/A	N/A		
Stewart Street Properties	N/A	Private	192-1-M-5-	Stewart & Cork Street Properties, LLC	Mike Kilmer		116 South Stewart Street, Winchester, VA 22601	120 South Stewart Street	120 South Stewart Street	SP-10-711	3/17/2015	6/16/2015	6/23/2015	7/22/2015	150001694	Rain Garden (0230)	PU17	Abrams Creek	0.55	Yes	Yes	No	N/A	As Needed	
Stone Ridge Development		Private	193-1-J-2-	Willingham Enterprises, LLC			9 North Loudoun Street, Winchester, VA 22601	412 South Loudoun Street	412 South Loudoun Street	SP-14-27	6/23/2015	6/24/2015	6/26/2015	7/22/2015	150001693	Pervious Pavers (0113)	PU17	Abrams Creek	0.18	No	Unknown	No	N/A	As Needed	
Stonecrest Village	N/A	Private	290-08-C-35	Stonecrest Village HOA			3050 Valley Avenue, Suite 110, Winchester, VA 22601	415 Russlecroft Rd.	415 Russlecroft Rd.	SP-95-04	N/A					SWM Pond (0119)	PU16	Opequon Creek - Buffalo Lick Run	87.0	Yes	Yes	Yes	7/21/2010	As Needed	
Stutzman Body Shop	Painter-Lewis	Private	310-1--6-	JACC, LLC	Jim Stutzman		2700 Valley Avenue, Winchester, VA 22601	2725 Valley Avenue	2725 Valley Avenue	SP-07-50	1/3/2008	1/3/2008	1/21/2008	8/19/2009	090002227	Infiltration Gallery (0120)	PU16	Opequon Creek - Buffalo Lick Run	1.1	Yes	Yes	Yes	7/23/2010	As Needed	
SU Sarah's Glen		Private	254-01--2-	Shenandoah University	Gene Fisher		1460 University Drive, Winchester, VA 22601	1460 University Drive	1460 University Drive	SP-11-696						Pervious Pavers (0076)	PU17	Abrams Creek	0.4	Yes	Yes	Yes	7/30/2010	As Needed	
SU Student Center Addendum	PHR&A	Private	254-01--2-	Shenandoah University	Gene Fisher		1460 University Drive, Winchester, VA 22601	1460 University Drive	1460 University Drive	SP-08-14	5/26/2008	5/28/2008	6/23/2008			Permeable Pavement (0121)	PU17	Abrams Creek	0.4	Yes	Yes	Yes	7/30/2010	As Needed	
Summerfield Apartments	N/A	Private	249-01--3-	Long Meadows Farm of Virginia 3, LLC			609 Cedar Creek Grade, Suite A, Winchester, VA 22601	909 Summerfield Place	909 Summerfield Place	SP-97-60	N/A					SWM Pond (0122)	PU17	Abrams Creek	5.4	Yes	Yes	Yes	7/14/2010	As Needed	
Sun Trust Bank	N/A	Private	149-2-B-1	Amherst Associates II, LLC	Kevin Hilburn	(703) 267-0182	c/o Lincoln Harris CSG, 4020 University Drive, Fairfax, VA 22030	1738 Amherst Street	Linden Drive	SP-04-11	N/A					Underground Detention (0125)	PU-17	Abrams Creek	1.0	Yes	Unknown	No	N/A	As Needed	
SVEC Substation		Private	271-1--4-	Shenandoah Valley Electric Cooperative			147 Dinkle Avenue, Mount Crawford, VA 22841	21 Shingleton Lane	21 Shingleton Lane	SP-12-560	9/13/2013	9/18/2013	10/3/2013	10/24/2013	130002958	Infiltration Basin (02175)	PU17	Abrams Creek	9.3	Yes	N/A	N/A	N/A	As Needed	
TGI Friday's & Glaize PVR	PHR&A	Private	292-02--3-	Glaize Developments	JP Carr		P.O. Box 888, Winchester VA 22604	111 East Tevis Street	111 East Tevis Street	SP-07-32	4/2/2007	4/2/2007	4/13/2007	4/25/2007	070001429	Downstream Defenders (0126)(0127) Infiltration Ponds (0128)(0129) Filterra (0182)	PU16	Opqeuon Creek - Buffalo Lick Run	2.9	Yes	Yes	Yes	7/30/2010	As Needed	
The Corners I		Private	270-06--5-	Biggs Corner Winchester, LLC			1625 Poes Lane, Charlottesville, VA 22911	2270 Valor Drive	2270 Valor Drive	SP-06-55	2/5/2007	2/9/2007				Underground Detention (0130)	PU16	Opequon Creek - Buffalo Lick Run	1.51	Yes	Unknown	No	N/A	As Needed	
The Corners II	Painter-Lewis	Private	270-06--6-	Molden Real Estate Corporation	Dennis Molden	(540) 662-4116	2400 Valley Avenue, Winchester, VA 22601	2310 Valor Drive	2310 Valor Drive	SP-06-55	2/5/2007	2/9/2007				Underground Detention (0009)	PU17	Abrams Creek	1.6	Yes	Unknown	No	N/A	As Needed	
The Lofts at Jubal Square	N/A	Private	251-1--27-	Jubal Square, LLC			1821 Avon Street, Suite 200, Charlottesville, VA 22902	1900 Valley Avenue	280 Jubilee Court	SP-14-611	7/2/2015	7/6/2015	7/23/2015			Wet Pond (0238)	PU17	Abrams Creek	6.89	No	No	No	N/A	As Needed	
Timberlake Office Building	Painter-Lewis	Private	214-08--2-	Grove Hill, LLC			900 S. Pleasant Valley Road, Winchester, VA 22601	900 South Pleasant Valley Road	900 South Pleasant Valley Road	SP-06-52	3/9/2007	3/19/2007	3/21/2007	3/27/2007	070001026	Filterra Units (0131)(0132)	PU17	Abrams Creek	0.5	Yes	Yes	Yes	7/16/2010	Quarterly & As Needed	
Trinity Auto Center	Stowe Engineering	Private	270-3--13		Peter Grasso		2425 Valley Avenue, Winchester, VA 22601	2425 Valley Ave.	2425 Valley Ave.	SP-12-18	3/14/2012	3/22/2012	4/4/2012	9/23/2013	130002661	Bioretention (0218)	PU17	Abrams Creek	0.67	Yes	N/A	N/A	N/A	As Needed	
Trinity Express Lube	N/A	Private	270-3--13-	Grasso & Sons Development Corp.			2425 Valley Avenue, Winchester, VA 22601	2425 Valley Ave.	2425 Valley Ave.	SP-04-16	N/A					SWM Pond (0044)	PU17	Abrams Creek	.81	Yes	Yes	Yes	7/27/2010	As Needed	
Valley Ave. Food Lion	N/A	Private	290-01--2A-	Kentland Foundation Inc.			P.O. Box 879, Berryville, VA 22611	2584 Valley Avenue	2584 Valley Avenue	SP-06-48	N/A					SWM Pond (0133)	PU17	Abrams Creek	20.7	Yes	Yes	No	N/A	As Needed	
Valley Mortgage	N/A	Private	290-01--8-	SEE Properties LP LLP	Graham Nelson	(540) 664-3600	c/o MarketPlace Realty, 302 South Braddock Street, Winchester, VA 22601	2654 Valley Avenue	2654 Valley Avenue	SP-97-51	N/A					SWM Pond (0134)	PU16	Opequon Creek - Buffalo Lick Run	58.0	Yes	Yes	Yes	7/21/2010	As Needed	
Valor Drive Site Plan	N/A	Private	271-03--7->A	Alejandro Orfila	Edwin Markowitz	(540) 454-1706	c/o Edwin P. Markowitz P.O. Box 1182, Middleburg, VA 20118	2215-2265 Valor Drive	Weems Lane	SP-05-50	N/A					SWM Pond (0136)	PU17	Abrams Creek	3.44	Yes	Yes	Yes	6/30/2010	As Needed	
Valor View Shopping Center	N/A	Private	270-6-3	Pro Properties, LLC		(540) 327-3872	588 Stoney Mountain Drive, Strasburg, VA 22657	2301 Valor Dr		SP-09-65	N/A	4/10/2010	5/27/2010	11/16/2010	100002667	Underground Detention (0137) Rain Garden (0138)	PU17	Abrams Creek	1.48	Yes	Unknown	No	N/A	As Needed	
Walmart	N/A	Private	292-01--1-	Walmart Realty Company	Chris MacLaughlin	(910) 443-1259	c/o Retention Pond Services, 451 Landmark Drive, Wilmington, NC 28412	2350 South Pleasant Valley Road	2350 South Pleasant Valley Road	SP-95-27	N/A					SWM Pond (0140)	PU17	Abrams Creek	19.4	Yes	Yes	Yes	7/19/2010	As Needed	
Walnut Street Extension Subdivision	N/A	Private	196-1-5	Don Packard Jr.		(540) 662-2400	2400 Valley Avenue, Winchester, VA 22601	400 - 408 Walnut Street	Woodland Avenue	SP-05-04	N/A					Grass Swale (0141)	PU17	Opequon	1.24	Yes	Yes	Yes	7/30/2010	As Needed	
War Memorial Building	N/A	Public	253-01--1-	City of Winchester	Kevin Sine		15 N. Cameron Street, Winchester, VA 22601	1001 East Cork Street	1001 East Cork Street		N/A					Rain Garden (0142)	PU17	Abrams Creek	0.5	Yes	Yes	No	N/A	As Needed	
Westridge Section 1	N/A	Public	269-04--A-	City of Winchester	Tom Denney		15 N. Cameron Street, Winchester, VA 22601	2505 Goldenfield Lane	2505 Goldenfield Lane		N/A					SWM Pond (0143)	PU17	Abrams Creek	9.2	Yes	Yes	No	N/A	As Needed	
Westridge Section 2	N/A	Private	289-04-C-60-	City of Winchester	Carolyn S. Butler	(540) 662-4602	15 N. Cameron Street, Winchester, VA 22601	2653 Windwood Drive	2653 Windwood Drive	SP-94-05	N/A					SWM Pond (0144)	PU17	Abrams Creek	15.1	Yes	Yes	No	N/A	As Needed	

Project	Applicant	Public/ Private	Tax Map #	Property Owner	Property Contact	Contact Number	Property Owner Address	Property Address	Closest Street Address	ID Number	Date Received	Date Signed by Engineer	Date Signed by City Attorney	Date Recorded	Instrument #	BMP Type(Number)	HU Code	Waterbody	Acres Treated	Constructed?	Maintained?	Inspected?	Last Inspection Date	Maintenance Schedule	Comments
Whitacre Property	Anderson & Associates	Private	231-04-K-1-	1726 Valley Avenue, LLC	John L. Brown		9576 Magenta Street, Manassas, VA 20110	1726 Valley Avenue	1726 Valley Avenue	SP-08-37	11/1/2008	11/5/2008	11/20/2008			Filterra Unit (0145)	PU17	Abrams Creek	.33	No	N/A	N/A	N/A	As Needed	
Whittier Ponding Basin	N/A	Public	171-6--A-, 171-6--C-	City of Winchester	Kevin Sine		15 N. Cameron Street, Winchester, VA 22601	206 Walker Street	206 Walker Street		N/A					SWM Pond (0146)	PU17	Abrams Creek	124.7	Yes	Yes	No	N/A	As Needed	
Winchester Marketplace		Private	253-1--8A-, 253-1--8B-	JDC Winchester, LLC			c/o Jay Donegan, 1760 Reston Pkwy., Suite 210, Reston, VA 20190	1523 South Pleasant Valley Road, 222 Spring Street	1523 South Pleasant Valley Road, 222 Spring Street	SP-14-84	4/14/2015	4/15/2015	4/16/2015	7/22/2015	150001695	Filterra (0192)(0193)(0194)(0195)(0196)(0197)(0198)(0199)(0200)(0201)(0202)(0203)(0204)(0205)(0206)(0207)(0208)(0209)(0210)(0211)(0212)(0213) Underground Detention (0214)	PU17	Abrams Creek	.12, .37, .12, .11, .21, .28, .08, .42, .27, .19, .51, .15, .65, .34, 1.07, .24, .24, .39, .35, .21, .52, .3, 13.2	No	Unknown	No	N/A	As Needed	
Winchester Medical Center	N/A	Private	149-03--1-	Winchester Medical Center			P.O. Box 3340, Winchester, VA, 22604	1840 Amherst Street	1840 Amherst Street		N/A					SWM Pond (0147)(0148)(0149)	PU17	Abrams Creek	171	Yes	Yes	Yes	7/27/2010	As Needed	
WMC Cancer Center	N/A	Private	149-3--1-	Winchester Medical Center			P.O. Box 3340, Winchester, VA, 22604	1840 Amherst Street	1840 Amherst Street	SP-15-77	10/31/2014	11/26/2014	2/19/2015			Cartridge Filter (0231)	PU17	Abrams Creek	2.65	No	No	No	N/A	As Needed	

Attachment 6. Letter from DEQ Confirming City Yards Facility Coverage Under the Virginia General Permit for Discharge of Stormwater from Industrial Activities

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
VALLEY REGIONAL OFFICE
4411 Early Road, P.O. Box 3000, Harrisonburg, Virginia 22801
(540) 574-7800 Fax (540) 574-7878
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Amy Thatcher Owens
Regional Director

July 1, 2014

Perry Eisenach
City of Winchester, Virginia
15 North Cameron Street
Winchester, VA 22601

RE: Coverage under the VPDES Industrial Stormwater General Permit
Winchester Public Works Department City Yards, Registration No. VAR050822

Dear Mr. Eisenach:

We have reviewed your Registration Statement and have determined that stormwater discharges from the above facility are hereby covered under the referenced VPDES general permit. Your coverage under this permit is effective as of July 1, 2014. The enclosed copy of the general permit contains the applicable stormwater pollution prevention plan (SWPPP), sector specific requirements, monitoring requirements, and other conditions of coverage.

The general permit requires that you update your SWPPP within 90 days of your date of coverage under the permit to incorporate the SWPPP changes that the Department made for this permit reissuance. For this reissuance, all permit discharge monitoring is semi-annual (i.e., once per six months). Monitoring for your facility begins with the July 1, 2014 monitoring period.

Discharge Monitoring Reports (DMRs) for your monitoring type(s) and outfalls are included with the permit. Each DMR specifies the applicable monitoring parameters required by the permit. A DMR should be completed for each permitted outfall for each monitoring period. DMRs must be submitted to this office by January 10th and July 10th each year. The first DMR is due January 10, 2015 for the monitoring period of July 1, 2014 to December 31, 2014.

You are responsible for obtaining additional copies of the DMRs. (See the **e-DMR** note at the end of this letter). Note that Representative Outfall sampling and reporting is allowed for all monitoring types ***except*** Effluent Limitation Monitoring. See the permit Part I.A.2.f for details, and Part I.A.5 for instructions on submitting DMRs with representative outfalls.

Note that permittees with at least one industrial activity stormwater discharge through a regulated municipal separate storm sewer system (MS4) have to submit signed copies of DMRs to the MS4 operator at the same time as the reports are submitted to the Department. A spreadsheet listing the regulated MS4s and their addresses is on DEQ's web site at: http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/MS4Permits.aspx (at the bottom of the page).

The following discharge monitoring applies to your facility:

- Benchmark monitoring – Specific stormwater monitoring for your facility based on the industrial sectors that apply to your facility (see the enclosed DMR). Refer to the permit Part I.A.1.b for the benchmark monitoring requirements, and the sector specific sections for the benchmark monitoring applicable to your facility.

- Impaired Waters Monitoring – Waters With An Approved TMDL (other than PCBs or Chesapeake Bay) – Your facility has been identified as discharging the pollutant of concern to an impaired waterbody that has an approved Total Maximum Daily Load (TMDL) Wasteload Allocation. As such, you are required to modify your SWPPP to implement best management practices (BMPs) designed to meet the allocation in the TMDL (see the attached relevant pages from the TMDL and the attached TMDL Fact Sheet). The TMDL contains a specific wasteload allocation for your facility; therefore, you are required to monitor your stormwater discharges for the TMDL pollutant of concern (see the enclosed DMR). Refer to the permit Part I.A.1.c(3) for TMDL monitoring requirements, and permit Part I.B.7.a regarding TMDL requirements.

- Impaired Waters Monitoring – Chesapeake Bay TMDL – Special Monitoring For Facilities In The Chesapeake Bay Watershed – In response to EPA's Chesapeake Bay Total Maximum Daily Load (TMDL) (December 2010), all owners of facilities in the Chesapeake Bay watershed are required to monitor their stormwater discharges for total suspended solids (TSS), total nitrogen (TN), and total phosphorus (TP) to characterize the contributions from their facility's specific industrial sector for these parameters (see the enclosed DMR). After you are granted coverage under the permit, stormwater samples are to be collected during each of the first four monitoring periods (i.e., the first two years of permit coverage). Refer to the permit Part I.B.7.b for the specific Chesapeake Bay TMDL requirements. Also note that permit Part I.B.7.b(3) requires you to analyze the collected data and possibly develop a Chesapeake Bay TMDL Action Plan based on the results of the sampling. Please refer to the enclosed Errata Sheet for the correct equation to use for the Chesapeake Bay TMDL loading calculations.

Virginia's Phase I Chesapeake Bay Total Maximum Daily Load (TMDL) Watershed Implementation Plan (November 29, 2010), states that the wasteloads from any expansion of an existing permitted facility discharging stormwater in the Chesapeake Bay watershed cannot exceed the nutrient and sediment loadings that were discharged from the expanded portion of the land prior to the land being developed for the expanded industrial activity. For any industrial activity area expansions (i.e., construction activities, including clearing, grading and excavation activities) that commence on or after July 1, 2014 (the effective date of this permit), you must document in the SWPPP the information and calculations used to determine the nutrient and sediment loadings discharged from the expanded land area prior to the land being developed, and the measures and controls that were employed to meet the no net increase of stormwater nutrient and sediment load as a result of the expansion of the industrial activity. Any land disturbance that is not required to be permitted under the VPDES construction stormwater general permit regulation (9VAC25-880) is exempt from this requirement.

DEQ launched an electronic Discharge Monitoring Report (e-DMR) program that now allows you to submit your stormwater DMR data electronically. We hope that every permittee will sign up for e-DMR access when they receive their general permit coverage, but it is not mandatory at this time. Note that EPA is moving towards making electronic reporting a mandatory requirement nationwide, so this may become a requirement in the future. There are many benefits to both DEQ and the permittee when e-DMR is utilized for monitoring data submissions:

1) Fewer revisions of the data since the e-DMR program automatically flags omissions before the data is submitted;
2) Cost savings on postage, copying, and paper;
3) No concerns about using the most current DMR form – e-DMR refreshes the required parameters automatically when changes are needed;
4) Submittals can be made on a timelier basis;
5) e-DMR participants instantly receive a system-generated email notification/ documentation with the exact time and date of when the e-DMR was submitted; and
6) Electronic signatures from multiple people are allowed, and e-DMR can be accessed from multiple computer locations.

We ask that you apply for e-DMR participation now, although you may apply at any time. Our regional DMR administrator, Linda Ferguson-Davie (540-574-7806, linda.ferguson-davie@deq.virginia.gov) can assist you. The following website provides details, training videos and Frequently Asked Questions:
http://www.deq.virginia.gov/Programs/Water/PermittingCompliance/ElectronicDMRsubmissions.aspx

This general permit will expire on June 30, 2019. The permit requires that you submit a new registration statement at least 60 days prior to that date if you wish continued coverage under the general permit, unless permission for a later date has been granted by the Board. Permission cannot be granted to submit the registration statement after the expiration date of the permit.

If you have any questions, please contact Olive Critzer at olive.critzer@deq.virginia.gov or (540) 574-7877.

Sincerely,

Brandon D. Kiracofe

Brandon D. Kiracofe
Regional Water Permits & Compliance Manager